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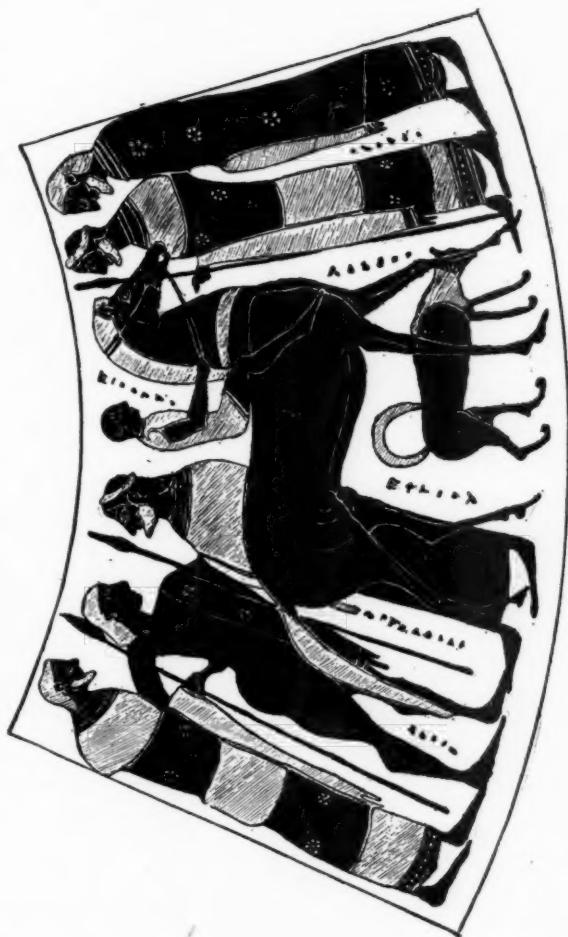
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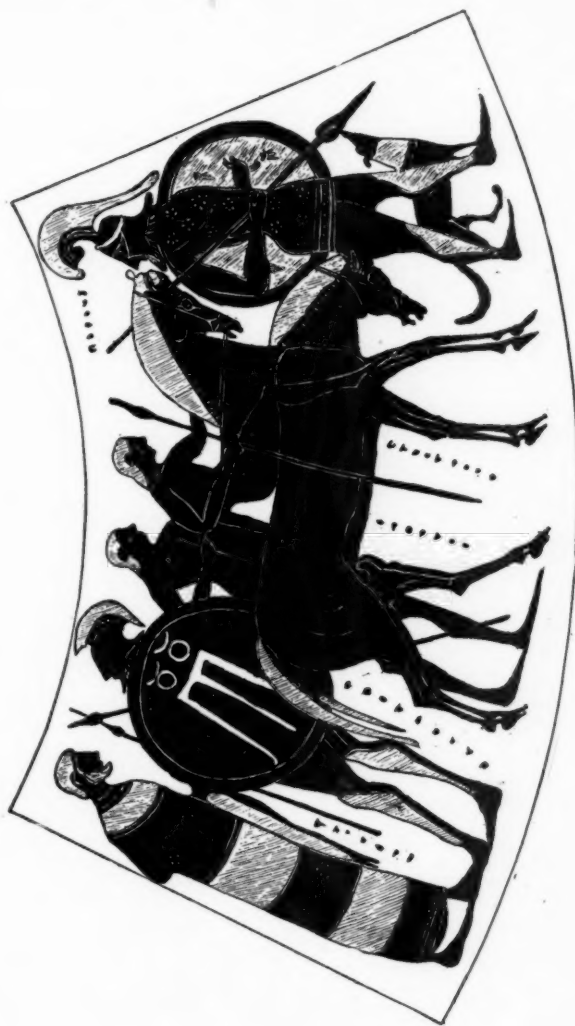
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FRONT OF AMPHORA IN PRINCETON MUSEUM

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BACK OF AMPHORA IN PRINCETON MUSEUM

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THE "ARMING OF AN EPHEBE" ON A PRINCE-
TON VASE

[PLATES X, XI]

NOTWITHSTANDING the apparent antiquity of the Athenian *ἐφηβεία*, descriptions of it or allusions to it in Greek writers, or illustrations of it on Greek monuments rarely antedate the middle of the fourth century. This is especially true of the literary sources. Our present guide with reference to the ephobic discipline is the lately recovered *Constitution of Athens* of Aristotle, written between 328 and 325 B.C.¹ The very word *ἐφηβος*, if we are to believe Girard's article on *ephebi* in *D. & S., Dict. Ant.*, is not used by writers of the fifth century, the concept apparently being expressed by *νεώτατοι* in Thucydides and Aristophanes.

The monumental material is also almost entirely later than the fifth century. Our earliest inscriptions referring to ephebes fall in the latter half of the fourth century, unless we include in that category the epitaph on the stele of Dexileos, the twenty-year-old knight who fell at Corinth in 394 B.C. There are, however, two vases of the black-figured and red-figured style respectively, which form exceptions to the generally late date of ephobic monuments and help to illustrate the institution as it was in the fifth, and even the sixth century. The first is an early black-figured Attic amphora, and the second a red-figured vase in the Hermitage at St. Petersburg, both described and reproduced by Conze.² The black-figured amphora represents a young man facing to the right, clad in crested helmet and himation, with his shield behind him, resting against his

¹ Ed. Sandys; *Introd.* p. xxxix.

² *Ann. d. Inst.* 1868, pp. 264-267, pls. H and I.

legs. He is pouring a libation over an altar-fire in the presence of an old man who wears the long chiton and himation, and stands with right hand raised, grasping a sceptre in his left. Brunn and Conze saw in the scene an ephebe taking the oath in the sanctuary of Aglauros, the formula of which is preserved to us by Pollux and Stobaeus.¹ The red-figured vase in St. Petersburg is reproduced in Girard's article (Fig. 2677). It should date, according to the description of it given by Conze, about 450 B.C. An ephebe, facing left, equipped with spear and shield, and draped with the himation,² extends his right hand over an altar. An old man on the left of the altar holds out his right hand toward the youth in similar fashion, administering the oath. Behind the ephebe, to the right, stands a Victory holding his helmet. The old man, according to Girard, personifies the βουλή, before whom or whose representatives the oath was taken.

We have no literary evidence for the ephebic discipline in the period represented by these vases, but in the descriptions of later writers elements may doubtless be found which belonged to the epheby in its earliest stage. Aristotle's description occupies chapter 42 of the *Constitution of Athens*. We learn from this that the appearance of the ephebes before their respective δημόται was merely for the purpose of registration, and was attended with no ceremony. This was followed by the δοκιμασία, or examination before the Council. After the ephebes had passed this test, their fathers, voting by tribes, chose three tribesmen over forty years of age, from whom the people selected a σωφρονιστής ἐφήβων for each tribe, and then from the whole body of citizens there was elected the general director of all the ephebes or κοσμητής. Under the leadership of σωφρονισταί and κοσμητής the youths made the rounds of the sanctuaries (τὰ ἱερὰ περιῆλθον), at which time they probably took the oath in the cave of Aglauros, and then departed for the Peiraeus, where they acted as garrisons, some in Munichia,

¹ Pollux, VIII, 105. Stobaeus, *Florileg.* 43, 48. Girard doubts the correctness of this interpretation, but gives no reasons, and the scene seems to me to be an earlier version of the oath-taking pictured on the red-figured vase.

² Conze says chlamys, but the garment has the oblong shape of the himation and is draped like it, while it does not in the least suggest a chlamys.

others in Acte. Their garrison duty, however, was in the nature of a training school rather than real military service, and this passage in the description is followed immediately by a list of their instructors and of their military exercises, and a description of their mode of living. The formal presentation of arms to the ephebes did not occur until their year in the Peiraeus was finished. At this time, "after having displayed," says Aristotle, "at a public assembly in the theatre, their prowess in arms, and after having received from the city a shield and a spear, they patrol the country and spend their time in the fortified posts. For two years they do guard duty, costumed in the chlamys and exempt from all public obligations." At the end of the second year, at the age of twenty, the ephebe took his place among the citizens.

We see from the above account that as the oath preceded the ephebe's first year, so the formal presentation of arms opened the second; consequently, the helmet, shield, and spear which form the accoutrement of the ephebes who are taking the oath in our two vase-paintings are either put in for artistic effect, or are the arms used by the ephebe in his lessons in warfare. We must remember, however, that a different arrangement may have existed a hundred or a hundred and fifty years before Aristotle. This suggests the query: how old is the epheby, and how much of Aristotle's description may be regarded as true for its earliest period?

The first question has never been definitely answered. Girard, who is disposed to be conservative, admits that it may have arisen before 500 B.C., and in fact there is no evidence against so early a date, while the military training of the youth, in some form or other, was obviously one of the first needs of an early state. The divinities invoked in the ephebic oath are of remote antiquity, and the black-figured amphora published by Conze may be regarded, it seems to me, as evidence of the existence of the ephebic discipline at least as early as 550 B.C. Now, of the customs recorded by Aristotle, the oath certainly belongs to the epheby in its earliest form. The other ceremony which seems to stand out in the description as an original element, is the public presentation of arms to the ephebe, with which his second year commenced. It is, in fact, the obvious

culmination of the training of young soldiers for the state service, and is probably to be classed with the oath as one of the ceremonies which always attended the transformation of the Athenian youth into the Athenian citizen.

In the Princeton Art Museum there is an early black-figured Attic amphora (Fig. 1),¹ which is decorated with a scene



FIGURE 1.

portraying, in my opinion, this arming ceremony as it existed in the sixth century. On the front (PLATE X) we see an ephebe, facing right, with left shoulder draped in himation, standing between two old men dressed in long tunic and himation, each holding a spear, while the one facing the youth holds out the spear in his right hand toward him.² To the right a youth, perhaps the ephebe's squire, reins the horse on which he is mounted into position before a third old man, who also holds a spear in his right hand, but rests it on the ground instead of presenting it.

He, too, is dressed in long tunic and himation, and is accompanied by another old man in similar but somewhat plainer costume. The back of the vase (PLATE XI) is decorated with one of those representations of the "Departure of Warriors" which are very common on these amphorae. It is possible to see the ephebe and his squire in the two young men in the centre of the picture, but inasmuch as there is no necessary connection between the front and back of a vase, the complementary character of the departure scene is hardly to be insisted upon.

The inscriptions were blurred in the burning of the vase, and are illegible. They are scarcely of importance in determining the meaning of the scene, as in most representations of this kind on black-figured vases the names written beside

¹ The panel is 10½ in. by 14½ in. In the reproduction, hatchings denote purple. The early date of the vase is shown by its shape, and the absence of any indication of folds in the draperies.

² The spear in the hand of the old man behind the youth was intended by the artist to rest on the ground, but the lower part was blurred in burning.

the characters are meaningless decorative imitations. Thus all the inscriptions on the "departure" or "arming" scenes given by Gerhard (*Auserlesene Vasenbilder*, IV, pls. cclxiv, cclxvii, cclxx) are meaningless. Apparently the only inscribed black-figured vase in the British Museum which contains one of these representations is No. 306 in the Catalogue of Vases, Vol. II, and the inscription is there described as an imitation. Even if our letters originally spelled intelligible names, we may gather what they would have been from the individual names in No. 1657 of Furtwängler's Catalogue of the Vases in the Antiquarium at Berlin: 'Αγάνορ, Δάπας (?), Χορρά, Εὐμαχος, Ξάνθος (written beside a horse). This is the only scene of the kind which I have been able to find, whose inscriptions spelled real names, and in this case they are chosen at random, and do not affect the interpretation.

The inscriptions out of the way, the scene is readily interpreted. We have the arming of an ephebe before us, which lacks entirely the domestic atmosphere ordinarily surrounding such scenes, and usually emphasized by the presence of women. The dog is scarcely an argument to the contrary, since a dog often appears on black-figured vases in situations where he is not only not needed, but scarcely desirable, as in mythological scenes, and occasionally in representations of a public character, *e.g.* a chariot race.¹

The ceremonial attitude of the figures, especially of the filleted old man to the right of the ephebe, indicates a public occasion, and I am therefore led to regard our painting as a representation of the public arming of the ephebes as it existed in the sixth century. The old man who hands the spear to the standing youth, represents the official delegated to perform the ceremony, the ephebe standing for the college as a whole.

The subject is almost unique in vases, but some paintings reproduced by Gerhard may be compared with it. One black-figured scene,² representing three fully armed young hop-

¹ Furtwängler, *Vasensammlung im Antiquarium*, Nos. 1685 B, 1688 A, 1691 A, 1903.

² *Auserl. Vasenbilder*, IV, pl. cclxii.

lites, facing whom, to the left, stands an old man, with another old man to the right of the warriors, may refer, as Gerhard says, to the arming ceremony. Gerhard's No. cclxiii represents a filleted old man facing right, and addressing two hoplites, behind whom stand two ephebes, with a third behind the old man, all in the attitude of spectators or auditors. The age of these hoplites, however, is uncertain, their faces being concealed by their shields.

The mounted youth to the right in our scene is, perhaps, better interpreted as the squire of the ephebe. The old man to the right, it will be noted, is not handing his spear to the squire, but rests it on the ground. We have, then, an ephebe cavalryman receiving his two spears, with his squire mounted on and holding his horse. We are nowhere expressly told that the corps of ephebes included cavalry, but indirect evidence shows that it did, the horsemen apparently being recruited from young men of wealth. Aristophanes speaks of the good work done by the cavalry of the νεώτατοι at Solymia.¹ The relief on the stele of Dexileos, who Girard² thinks was still an ephebe when he fell, depicts him as a horseman. It is interesting to note that the knights who pass in review before the committee of the βουλή on the Orvieto cylix³ are all youths, and also that the petasos and chlamys, the characteristic dress of ephebes in the fourth century, is not only used on red-figured vases to costume Hermes, Theseus, travellers, and huntsmen, but regularly as the dress of horsemen. The ephebic uniform may thus have been generalized from the costume of the mounted members of the college.⁴

The earliest monument which uses the petasos and chlamys distinctively as the ephebic costume seems to be the stele of Dexileos. The red-figured vase with the ephebe taking the oath drapes him in the himation, agreeing thus with the

¹ *Knights*, 604 ff.

² *l.c.* p. 630, note 182.

³ *Arch. Zeit.* 1880, pl. xv.

⁴ The existence of a corps of cavalry in the college seems to be shown by the references to training in horsemanship in the ephebic inscriptions. Cf. *C.I.A.* II, 478, fragm. a. l. 20: "τῆς τε ἐν ὄπλοις καὶ ἱππικῆς ἀσκήσεως πολυφρονησεως," fragm. c. l. 8: "ἐν ὄπλοις γυμνασίας καὶ τὴν περὶ τὰ ἱππικὰ φιλοπονίαν," II, 479, l. 29: "τῆς ἐν τοῖς ἱππικοῖς [γυμνασίας]," II, 482, l. 21: "τῆς τῶν ἱππων γυμνασίας."

sixth century monuments, like our vase, and Conze's Attic amphora, where the ephebe is given the himation. The youthful cavalymen in the long procession of warriors on the black-figured Castellani cylix, now in the British Museum,¹ have all the appearance of ephebes, and wear the himation without head-covering. Altogether, it seems that the distinctive use of the petasos and chlamys arose in the fourth century, and that the ἐφηβεία was not distinguished by a particular costume in the earlier period.

Aristotle says: λαβόντες ἀσπίδα καὶ δόρυ παρὰ τῆς πόλεως. No shield appears in our painting, inasmuch as the shield, at least in the fourth and fifth centuries, and doubtless earlier, was not a regular part of the cavalry equipment.² This accounts for the use of ἀσπίδες to distinguish hoplites from the cavalry.

It is to be regretted that the interpretation of so interesting a monument cannot be supported with literary evidence, showing the existence of the arming ceremony in the period of the early black-figured vases. In my opinion, however, the scene itself is ample proof. It is certainly the arming of a youth, and it differs vastly in its formal tone from the ordinary arming scenes, whose domestic character is felt at once. The vase should be classed, I think, with that other black-figured amphora published by Conze, as well as the vase in Gerhard's *Auserl. Vasenbilder*, which was cited above, as illustrating, in their sixth century aspect, two elements, the ceremonies of the oath and of the arming, which reappear in the ephebic discipline of the fourth century.

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¹ *Cat. Vases Brit. Mus.*, II, No. 426. Figured in *Mon. d. Ist.* IX, pls. 9-11.

² Martin in *D. & S., Dict. Ant.*, III, p. 766.

AN UNPUBLISHED AMPHORA AND AN EYE CYLIX
SIGNED BY AMASIS, IN THE BOSTON MUSEUM

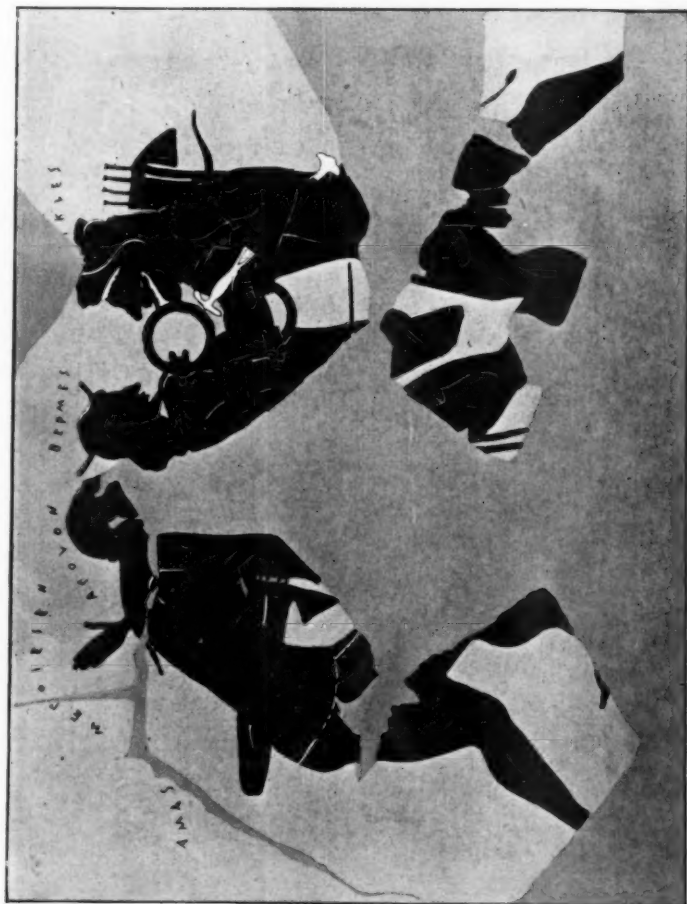
[PLATES XII, XIII]

THE unpublished amphora signed by Amasis, which was acquired by the Boston Museum of Fine Arts in 1901 from the Bourguignon collection,¹ presents striking characteristics of that master's work, showing his skill in technique, and especially in composition and movement. In these respects it must be placed at the head of his known works,² and proves that Amasis was not merely a clever draughtsman following traditional types, but a painter who possessed both originality and artistic ability.

The vase (Fig. 1) is 30.5 cm. high, with a diameter of 20.5 cm., and has the same general shape as the other signed amphorae. The height of the greatest diameter and its large ratio to the height of the vase give a bold outline that conveys an impression of solidity and compactness rather than grace. Lip, neck, and foot are sharply defined, but the transitions are

¹ Twenty-sixth Annual Report of the Trustees, 1901, p. 32, No. 5. Mentioned by Hauser in *Jb. Arch. I.* 1896, p. 178, note 1. For kind permission to publish this vase, I am much indebted to the authorities of the Boston Museum of Fine Arts.

² There are in all eight signed vases:—three amphorae: Paris, Cabinet des Médailles, Klein, *Die griechischen Vasen mit Meistersignaturen*, p. 43, No. 1; Boston, Museum of Fine Arts, Klein, No. 3; Boston, Museum of Fine Arts, hitherto unpublished:—two olpae: London, British Museum, B 471, Klein, No. 4; Klein, No. 6:—two oenochoae: Paris, Louvre, Klein, No. 5; Würzburg 384, Klein, No. 7:—one eye cylix, Boston, Museum of Fine Arts, hitherto unpublished. All except those treated in this paper are published in the *Wiener Vorlegeblätter*, 1889, pls. III and IV. It has been clearly proved that the amphora in the British Museum, B 209, Klein, No. 2, is not the work of Amasis. For a full bibliography of the discussion, see *Catalogue of Vases in the British Museum*, II.



FRONT OF AMPHORA SIGNED BY AMASIS

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BACK OF AMPHORA SIGNED BY AMASIS

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made by tiny curved fillets. The handles are of triple form, and the profile of the foot is angular, in which details it resembles the other amphora in Boston. The effect of the vase is brilliant, both in color and draughtsmanship. The black glaze has a peculiarly metallic lustre, in which the thread-like incisions are extraordinarily clear. There are traces of white pigment which was used to emphasize the incisions, a device noted on a fragment in Athens, also ascribed to Amasis, and not infrequent elsewhere, especially on Ionic ware.¹



FIGURE 1.—AMPHORA OF AMASIS.

Purple and white give variety of color, as on the other vases of Amasis. The former is freely used for the linings and folds of drapery, where it is contrasted with an overlapping black surface, for details of muscles of animals, the neck of the stag, fillets, the body of the tripod, bands and patches on the quivers, helmet, shield, and boots. In decorative designs it is applied with lavish hand to alternate with black, as in the lion's mane and in the diaper pattern, and rows of purple dots, frequently encircled by white dots, ornament the long folds of drapery. Certain details of the minor decorations are picked out in purple, as for example the centres and alternate lobes of palmettes, the central leaf of the lotus, and the transverse lines between links of the palmette-and-lotus band; and two purple lines are found over the black glaze of the interior of the neck. White is more sparingly used, never in masses, except for the flesh of Thetis, the teeth of the lion, and por-

¹ Studniczka, 'Ep. 'Apx. 1886, p. 124; Dümmler, *Röm. Mitt.* 1888, p. 161; cf. Benndorf, 'Zur Vasentechnik,' *Arch. Zeitung*, 1881, 1. Slight traces of white are visible on the other amphora in Boston.

tions of the scabbard; but minute dots of it follow the lines of other patterns, as on the crest of the helmet, the body of the serpent, around larger purple dots, and bordering one side of the favorite step pattern.

While Amasis has spared no pains in ornamenting his work wherever a pattern could be placed, he has been careful not to disturb the effect of the large masses of color, nor to distract the eye from the centre of interest. There are no abrupt transitions, but the lines flow naturally, following the profile of the vase from one part to another. The general scheme of decoration is the usual one on Attic red-bodied amphorae, but with certain details which show the utmost delicacy of feeling, and an endeavor to modify inherited conventional types. The palmette-and-lotus band of the neck differs from those of the other amphorae in the connecting elements, having a single link while the others have respectively a double link and a scroll pattern. A bit of step pattern bordered with white dots is introduced on the stem of the three-pronged lotus. The scroll pattern which forms the transition between the neck and shoulder is not of the conventional form, but is broken at intervals, while an elaborate palmette-and-lotus volute connects and separates the main pictures below the handles, which are graduated by a toothed pattern at their juncture with the body. Above the slender double rays is the step pattern, as on the other amphora in Boston; where the Paris amphora has a lotus-bud chain and a zigzag pattern. The use of purely decorative elements for transitions is of more artistic value than the introduction of human figures, as they set in greater relief the pictorial designs of the vase. Our artist seems to have worked out in his amphorae this principle, which was so well known to Attic vase painters of the best period, and it may be that our vase represents his latest as well as his best developed work.

The side bearing the signature (PLATE XII) represents the Rape of the Tripod in the presence of Hermes, and on the reverse (PLATE XIII) is the Delivery of Arms to Achilles by Thetis in the presence of Phoenix. The names are inscribed in curves following the lines of the heads, and the signature AMAΣΙΣ ΜΕΓΟΙΕΣΕΝ is doubly curved to fit the volute and the

head of Hermes.¹ The placing of the inscriptions, as well as the accuracy in forms, shows that they were regarded as an integral part of the decorative scheme and thought worthy of the same painstaking attention as the other ornamental details.

Reference to the plates² will obviate the necessity of the detailed description of the main designs which otherwise might be needed for comparison with other work of Amasis. I shall therefore consider only those features which have special interest in relation to the style of the master. Beginning at the left of the obverse, Apollo bends forward to the right to grasp the legs of the tripod. He wears a leather cuirass of the Ionic type with *pteryges* and shoulder-pieces over a plaited chiton. The form and decoration of the cuirass are almost duplicated by that worn by Achilles and, with slight variation in pattern, by one of the warriors on the other amphora in Boston. The palmette behind the shoulder is like those ornamenting the tripod. This is the usual form of the cuirasses of Amasis, but the chiton is variously treated, scant and straight on the circle of warriors on the Paris amphora, in rigid plaits on the olpe, Klein, No. 6, and on an unsigned Berlin amphora.³ His open quiver with its four feathered arrows is like that of his opponent Heracles here and on the Paris oenochoe, and of a bowman on the Paris amphora. Apollo's flowing hair is bound with fillets in a manner repeatedly found on these vases, with two locks in front of the ear, and two behind it, which escape in front of the shoulder, while the rest falls in a curly mass behind.⁴ Were the vase not broken across Apollo's face, we should see that the locks ended in hooks, which pointed forward like those of Achilles. Such forward-pointing hooks with locks drawn either separately, as on our vase, or in pairs, are a mannerism

¹ Of the other signatures only two have surely no M before ΕΓΟΙΕΞΕΝ, the cylix and one of the olpae, Klein, No. 6. On the Würzburg oenochoe only ΟΙΕΞΕΝ remains. The M was probably written on the obverse of Klein, No. 3, where the vase is broken before E, as it appears in the intact signature of the reverse side. This signature on the reverse is omitted by Klein.

² I am greatly indebted to Miss Harriet Whitaker for her willingness to undertake the task of preparing the drawings for this paper. Her accuracy of observation has aided me materially in my own work.

³ Adamek, *Unsignierte Vasen d. Amasis*, pl. I.

⁴ E.g. Athena, Poseidon, and Dionysus on the Paris amphora; a warrior and the old man on the other Boston amphora.

of Amasis.¹ The short front hair is waved across the forehead in a unique manner and, like that of Achilles, shows the background underneath the lock at the top of the head. The arrangement of the hair of Hermes, however, is common in works of Amasis and elsewhere. Hermes wears a purple petasus of a form differing from the straight-brimmed caps on the other vases. Curiously enough it is secured by strings, represented by fine incisions, one of which passes across the fillet to the back of the head, while the other passes in front of the ears and below the chin, where a knot is tied.²

The ear of Hermes is large and drawn with a double lobe toward the front. This is the form of the ear of the Gorgon and of most male figures of Amasis, and is found in other black-figured work, but seldom so clearly marked as here. The nose with its well-defined nostril and the straight line of moustache placed high above protruding lips are features of the other bearded figures. But variation in profile is noticeable, and the energetic lines of Heracles and Hermes are in marked contrast to the more delicate drawing of nose and mouth, which gives repose to the faces of Achilles and Thetis. Hermes wears his chlamys over both arms as on the Paris oenochoe, and below his dotted chiton appears a nebris minutely incised like the skins of animals elsewhere.³ The boot was decorated with

¹ There is a striking example of this treatment on a fragment in the style, if not from the hand, of Amasis, published by Hauser in *Jb. Arch.* I. 1896, p. 179, fig. 6. The Gorgoneion which forms the shield device wears carefully hooked locks, but they point outward, which probably was intended to give the monster a more ferocious aspect. The hooks are greatly exaggerated on the amphora in the British Museum, B 209, which may be a point in favor of the suggestion that the manner of Amasis was here consciously imitated, as undue emphasis upon unessential details is characteristic of imitative work.

² While on red-figured vases the strings are frequently found, especially to fasten a *petasus* hanging at the back of the neck, I have been able to find but two undoubted examples of this usage represented on publications of black-figured vases, — a Corinthian amphora published in *Monumenti Inediti*, X, pl. LII, on which the hat is fastened under the chin by two parallel lines, and an oenochoe formerly in the Sabouroff collection (pl. L, 2), on which the petasus and its string are purple. On a red-figured cylix of Brygos in Corneto, *Monumenti Inediti*, XI, pl. XX, the arrangement is identical with ours. For other examples see *Monumenti Inediti*, VIII, pl. XXVII; *Röm. Mitt.* 1890, p. 332; *R. Arch.* 1808, p. 166; *J.H.S.* 1904, pl. VIII; *Monuments Grecs*, I, pls. I and IV; Hartwig, *Die griechischen Meisterschalen*, pls. LIII and LIV.

³ *E.g.* lion and stag on the shield of Thetis; lion's skin of Heracles here and

purple like those of Hermes on Klein, No. 5, and of all three figures on Klein, No. 4. The caduceus is very slender, as well as the shafts of all spears, the sceptre, and the trident, and on all of these shafts one or more knobs are drawn below the point.¹ Heracles is clothed in a splendid example of conventionalized lion's skin and mask, and carries a bow, quiver, and sword. The sword in form and ornament, even to the corresponding use of purple and white and the baldric attachments, is the counterpart of those on Klein, Nos. 3, 5, and 6.

On the reverse, Phoenix wears such a chiton as the other elderly men, but instead of wearing his himation shawl fashion, tucks it under his bare right arm and over the left shoulder, as Poseidon does on Klein, No. 5, except that Poseidon discreetly covers his right elbow in his chiton. His bald and wrinkled forehead is an interesting indication of the realism of the artist, who represented his hoary locks by incisions, not by the more usual method of white pigment. Nowhere else does Amasis show his love for finished detail more than in the extremities, for the feet, though unduly long, are well shaped and minutely treated, while the finger nails are incised. The figure of Achilles presents no features not already mentioned, and the last figure is that of Thetis, who stands almost covered by the round shield. Her hair is arranged in six prim waves like the woman on the Würzburg oenochoe. The ear with its large lobe is unfortunately blurred, but the huge earring resembles that on the Berlin amphora,² or those on the Paris amphora, and the wavy necklace is like that of all the women on these vases, except of Athena on the Paris amphora, who wears a plain band. The flesh is white, in the Attic manner, and details are incised into the black, except in the outline

on Klein, No. 6; fawn and panther, Klein, No. 1; goats on the shield on Klein, No. 3.

¹ These projections are not common except on vases in the manner of Amasis, where they are the rule. On red-figured vases the shafts are frequently supplied with one or more transverse lines at the corresponding point. Cf. Gerhard, *Etruskische und Kampanische Vasenbilder*, pl. VI; Hartwig, *Die griechischen Meisterschalen*, pls. IX, XII, XIII, LXXI, etc. Apulian vases elaborate these into a ribbon twisted around the shaft.

² Adamek, *op. cit.* pl. I.

of the eye and the nostril, where the white surface appears merely to be indented. Strangely, too, the white of the eye and of the face are now differently discolored, suggesting that the paint may have been differently treated in these places. The surface of the cheek appears to have received an extra coat of paint, as it is perceptibly higher than that of the eye, the whiteness of which is therefore better preserved; possibly the two surfaces were never alike in color. The iris consists of a purple ring enclosing a dot which may once have been white but is now discolored. Thetis wears a straight plaided chiton, closely resembling that of Athena, on Klein, No. 3. A lion tearing a stag is not common¹ as a shield device, though a warrior on the Paris amphora has a stag alone in the same position on his shield. The subject of a lion tearing a stag or other animal is too familiar in Greek decorative work to need comment, were it not that a new scheme of composition is used by our artist. The lion usually stands with but three paws on his victim, which makes the horizontal axis longer than the vertical. Here the lion stands fully on the back of the stag, thus practically equalizing the axes, and so adapting the type to the circular space to be filled. A characteristic touch is the single line of the lion's tail, which is curved to fit the circle of the shield. The lion generally bites the neck from the side nearer the spectator; but Amasis taxes his ingenuity to the utmost in drawing the lion's head behind the stag, as is shown by the delicately branching antlers incised in the mane and above it, and by the position of the white tooth which tears the slender neck.² The centre of interest on this side is the princely helmet of elegant proportions, decorated with a sweeping crest supported by a bearded serpent. This unusual detail is paralleled only by the fox which decorates the amphora in the British Museum which bears the name of

¹ Dr. Chase notes only two others, the composition of which is less compact than ours. Cf. 'Shield devices among the Greeks,' *Harvard Studies in Classical Philology*, vol. XIII.

² On a gem in the British Museum figured in Imhoof-Blumer u. O. Keller, *Tier- u. Pflanzenbilder auf Münzen u. Gemmen*, pl. XIV, 30, the lion's head is behind, but the composition is oblong. On coins of Velia (Head, *Historia Numorum*, fig. 50) not earlier than the fourth century B.C., the composition is adapted to the circle, but the lion bites from the side nearer the spectator.

Amasis (Klein, No. 2). A black-figured cantharus with elaborate decorations has a crest supported with curves, in form similar to ours, but without the head of the serpent.¹ A red-figured pelike in the British Museum, E 363, has two crests supported by serpents, drawn, however, with far less feeling, and without fineness of detail. A fragmentary hydria of late fine style, in the same museum, E 252, has a support in the same form. The support, in form of a swan's neck and head, was common in archaic art, and may be seen both on bronzes and vase paintings. It seems to have suggested the support which terminates in a hook distinct from the crest.² The cheek piece of our helmet is ornamented with an incised ram's head, like the one at the top of the sceptre on Klein, No. 6. Rams' heads in relief form the cheek pieces on a helmet in the British Museum,³ and are represented in the same way on a red-figured cylix, E 3, in the same museum. Facility and delicacy in the use of ornament are the most striking characteristics of our artist, and it is surprising to note that, with all the wealth of detail, he does not lose interest in his work and treat his designs conventionally. In spite of the ever-recurrent step pattern, the fringed and dotted draperies, there is real feeling for new effects, and the very contrast produced by so archaic a feature as a foldless chiton placed near elaborate drapery, proves less the witless art of a mechanic than the skill of a designer who, by infinite variety, carries his point. Amasis makes the impression of having been open-minded and sensitive to influence, but with a power of invention which puts the stamp of his personality upon all his work.

In action and composition the vase is more interesting. On the reverse, the type of the Delivery of Arms is far less common on black-figured vases than the one in which Achilles puts on his greaves. Probably the accessory figure was regularly an old man in this type as in the other published black-figured

¹ From the Acropolis. *B.C.H.* XX, pl. VII.

² Swan's head on statuette in the Acropolis Museum, Catalogue 796, 'Εφ. 'Αρχ. 1887, pl. 7: on vases, Timonidas vase in Athens, National Museum, Catalogue 620, *Wiener Vorlegeblätter*, 1888, pl. I; early black-figured vase from Caere, *Monumenti Inediti*, VII, pl. LXXVIII: curved hook support, black-figured lecythus in Dresden, *Arch. Anz.* 1900, p. 112.

³ *Catalogue of Bronzes*, 2830.

vase,¹ while the other type has warriors or Nereid figures, only once an old man inscribed *Peleus*, on a pinax in Athens somewhat resembling the work of Amasis.²

The vertical composition is somewhat lifeless, although the figures are not unrelated, but the lines of hands, helmet, and sword and the direction of the faces lead the eye from the two sides of the design to the front of the helmet, which is at the centre of action, in such a way as to indicate that the action passes toward Achilles. As the helmet is not at the mathematical centre, balance is maintained by opposing the heavy shield to the broad surface of the draperies of Phoenix.

There are three types of the Rape of the Tripod; the tripod stands on the ground, it is pulled in both directions as here, or it is carried by Heracles followed by Apollo. Here, again, the least common type is followed. On one other vase of the type Hermes is placed between the contestants, but usually Athena or Artemis witnesses the scene. The composition is more lifelike than the reverse, being pyramidal, and there is a fine decorative effect in the balance of black and red patches of color. The lines of the legs interlock in natural poses, and skeleton lines of legs, arms, bodies, and the tripod compel the eye to rest at the point of interest, the top of the tripod, where converge also the quiver of Apollo and the sword of Heracles. The unity is further aided by the direction of the faces of the figures. The attitudes are full of life, the subtle curve of Apollo's back suggesting the strategic movement of the athlete, while the greater mass of Heracles is full of muscular strength. The muscles and articulations are variously treated, as if Amasis tried to follow the natural movements of the body, and understood the value of a single line rightly placed. In action and rhythm the composition, at least of this side, surpasses most black-figured work and proves that Amasis was an artist of striking individuality, in spite of much lifeless work which passed from his brush.

The fragmentary eye cylix of the Bartlett collection (Fig. 2) shows the same careful drawing and use of accessory colors.

¹ Overbeck, *Gallerie heroischer Bildwerke*, p. 442, No. 83; cf. Micali, *Monumenti*, pl. 82, 1, 2.

² National Museum, No. 671.

Its diameter is 17.5 cm., which allows room between the eyes for a single figure, probably a Dionysus, as hinted by the ivy and the bit of drapery; a figure like those under the handles



FIGURE 2.—FRAGMENTS OF EYE CYLIX OF AMASIS.

of the amphora in Boston, Klein, No. 3. Its only points of interest lie in the inscription, in which M is not written before ΕΡΟΙΕΣΕΝ, and in the form of vase, which is not known to have been used elsewhere by Amasis.¹

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¹ Amasis signs his vases only as maker (*ἐποίησεν*), not as decorator (*ἐγραψεν*). In this paper it has been assumed that the maker was also the decorator, an assumption which is justified in the case of Amasis by the identity of style in the decoration of the vases that bear his name.

THE DISCOVERY, BY PROFESSOR GUSTAVO GIO-
VANNONI, OF CURVES IN PLAN, CONCAVE TO
THE EXTERIOR, IN THE FAÇADE OF THE
TEMPLE AT CORI

[PLATES XIV-XXII¹]

THE object of this paper is to call attention to the recent remarkable observations of curvilinear refinements in the Temple at Cori (PLATE XIV)² by Professor Gustavo Giovannoni, Assistant Professor in the Royal School of Engineering Architects at Rome.

The announcement regarding these curves was originally made by Professor Giovannoni before a meeting of the Roman Society of Architects which was held on the 6th of February, 1905. It was first published in the *Annuario* of the Society for that year. The additional facts to be related were then obtained through personal correspondence with Professor Giovannoni, who has also allowed me to describe and publish them. I am advised by his letter of December 8, 1906, that the isolation of the Temple at Cori from adjacent buildings will be shortly undertaken by the Italian Government and that this opportunity will be used for the construction of scaffolds which will enable him to take measurements in detail of the upper portions of the façade. Meantime I quote from an earlier letter, of July 2, 1906, the following information:

"The temple of Hercules at Cori belongs to the late epoch of the Roman Republic and is one of the finest specimens of

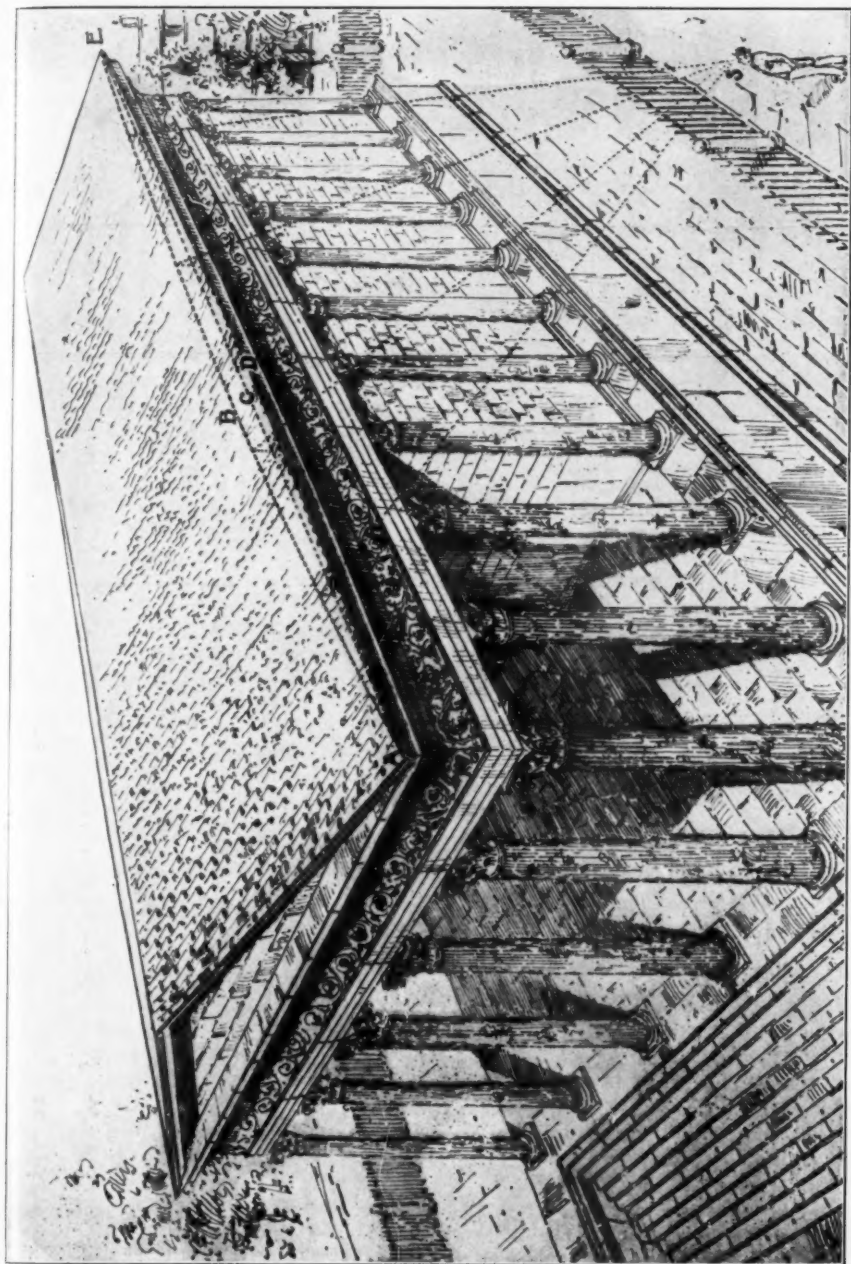
¹ Of the illustrations, PLATES XV and XVII are from drawings by John W. McKecknie, PLATES XVIII-XXI are from photographs of the Brooklyn Museum Survey of 1895, and PLATE XXII from a photograph of the same survey in 1905.

² The adjacent buildings interfere with a view of the curve. Its character is shown in PLATE XXI.



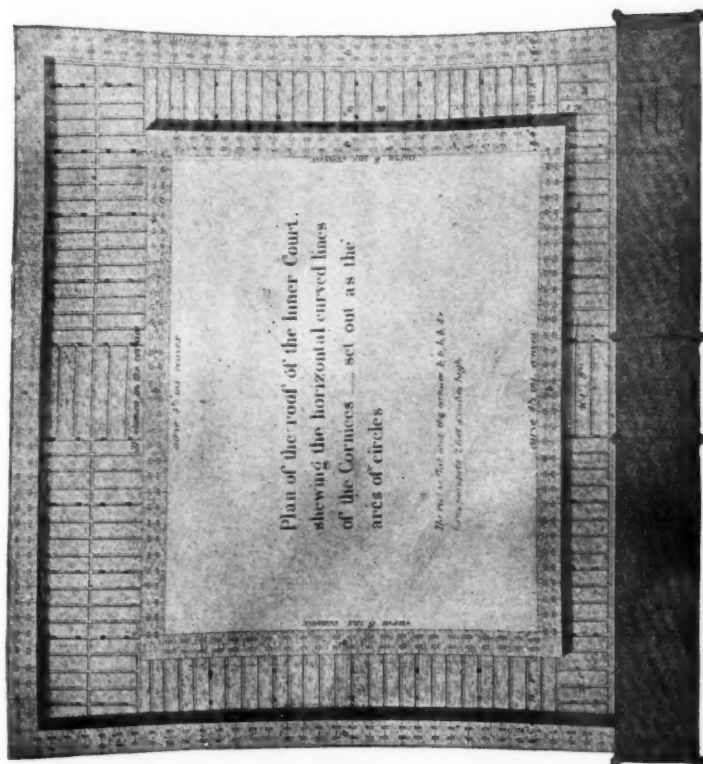
THE TEMPLE OF HERCULES AT CORI

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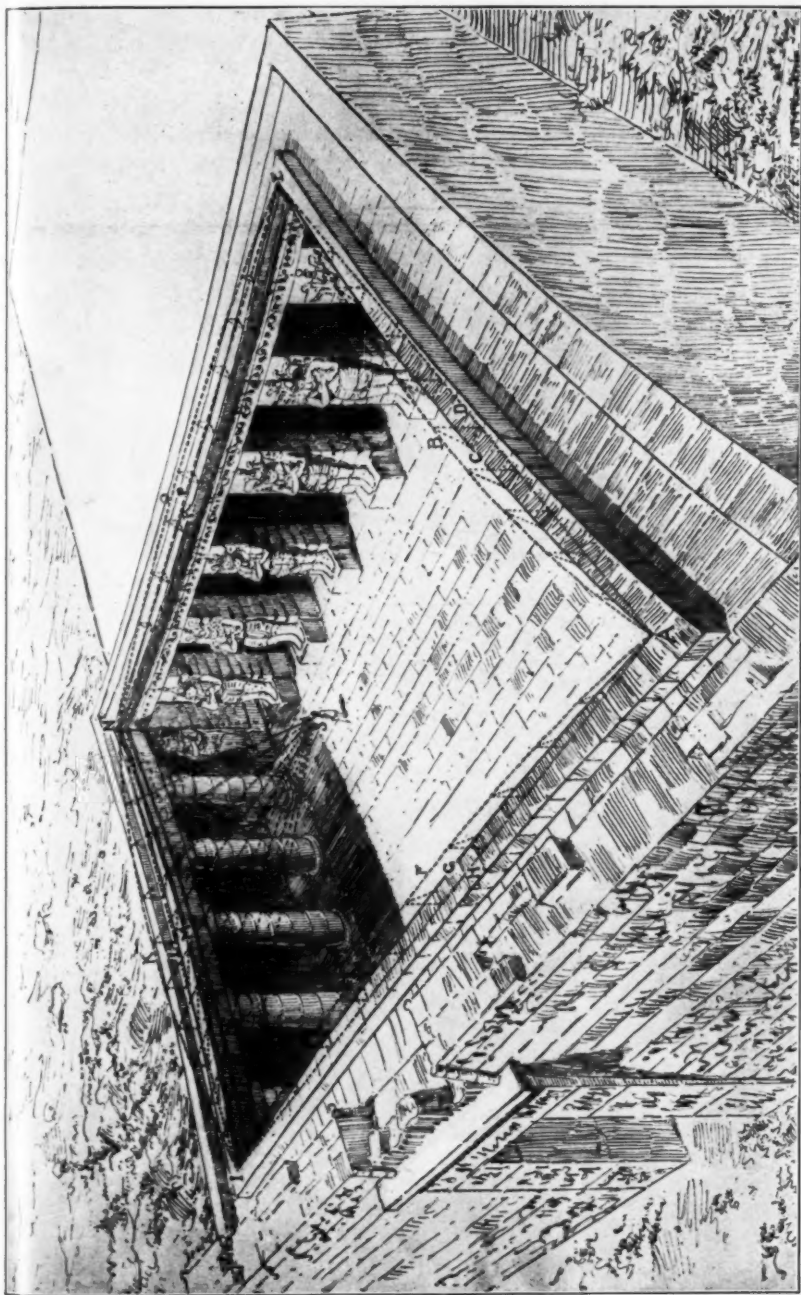
BIRD'S-EYE VIEW OF THE MAISON CARRÉE AT NÎMES

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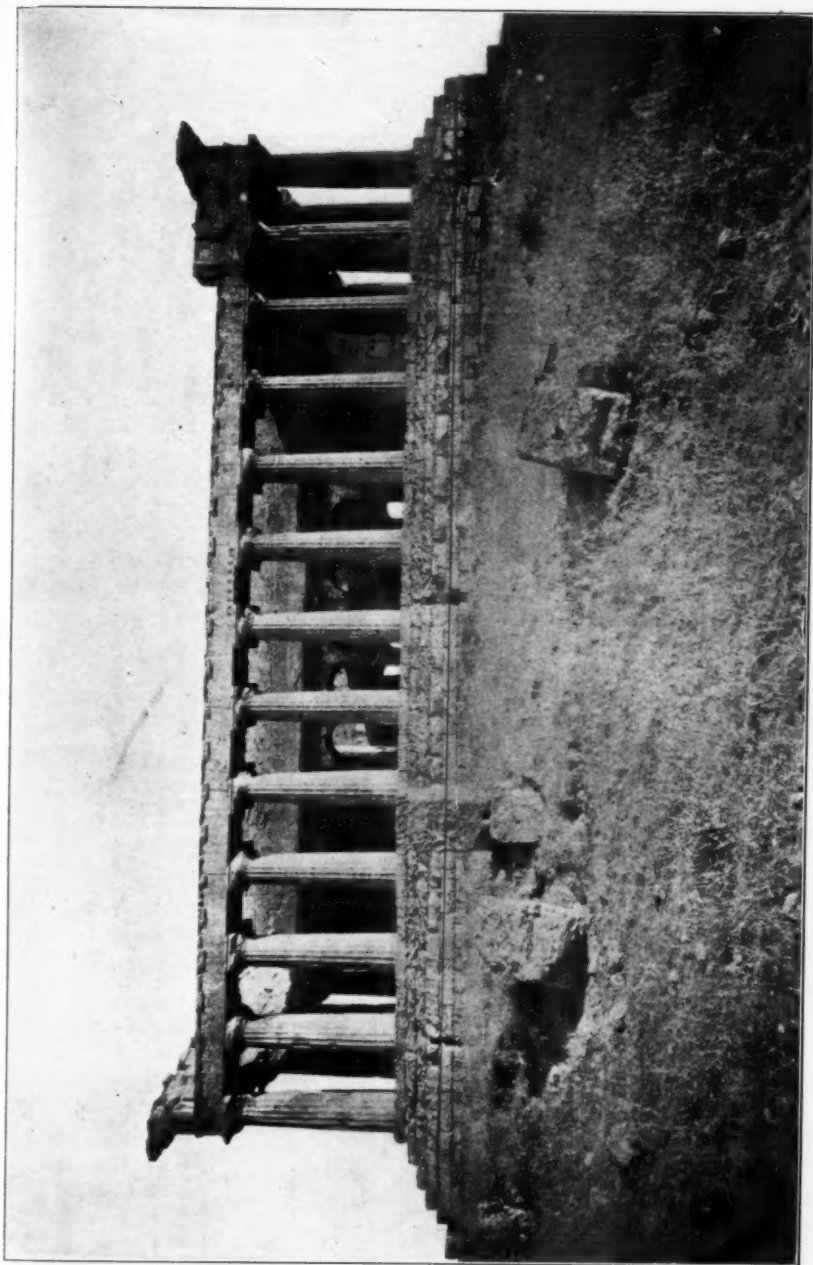
PLAN OF THE ROOF OF THE INNER TEMPLE COURT AT MEDINET HABOU, THEBES
(From Pennethorne, 'Geometry and Optics of Classic Architecture')

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BIRD'S-EYE VIEW OF THE INNER TEMPLE COURT AT MEDINET HABOU, THEBES

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THE TEMPLE OF CONCORD (SO-CALLED) AT GIRGENTI (NORTH SIDE)

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WEST FRONT OF THE TEMPLE OF CONCORD (SO-CALLED) AT CIRGENTI

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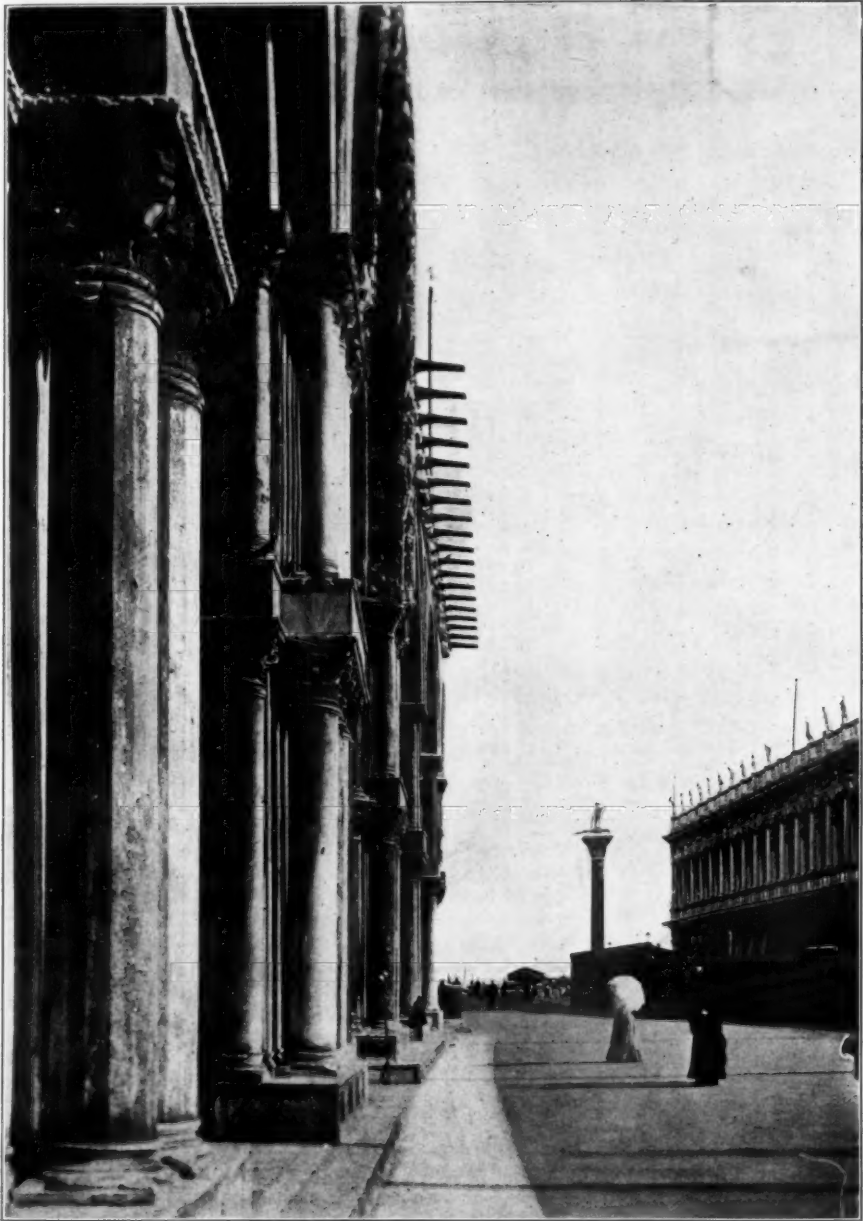
SOUTH SIDE OF THE TEMPLE OF POSEIDON AT PAESTUM

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EAST FRONT OF THE TEMPLE OF POSEIDON AT PAESTUM

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FAÇADE OF ST. MARK'S AT VENICE

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this period of transition from the Greco-Etruscan style to the Roman. The pronaos and the great door are still in almost perfect preservation and show splendid execution, both from the artistic and from the constructive point of view. . . . The suspicion of accident (in regard to the curves) cannot be entertained.

"No one, however, as far as I am aware, has previously observed or measured the curve of the façade. This curve exists notwithstanding, and is very clearly defined. The concavity (in plan) which is small at the columnar bases, where it measures 10 or 12 cm. deflection, increases to nearly 35 cm. in a length of 7.50 m. at the cornice. The gable follows the same line, and the regularity of the joints gives assurance that neither (original) accident nor subsequent movements have produced this remarkable deflection. There are no curves on the flanks."¹

As regards the measurements just quoted it is to be observed that the curve of 10-12 cm. quoted for the line of the bases is one of unusually large deflection for the given length of 7.50 m., as compared with other classic curves; and that the curve at the cornice, of 14 inches or 35 cm., is far greater than any curve previously recorded for the ancient monuments, both as regards the actual measurement and still more as regards the relation of other deflections to the greater widths or greater lengths of the given buildings.

Aside from the remarkable amount of the curve, its still more remarkable feature is the concavity in plan, and I need hardly

¹ "Le Temple d'Hercule à Cori appartient à la dernière époque de la République, et il est un des plus beaux spécimens de cette période de transition du style grec-étrusque au romain. Le pronaos et la grande porte sont encore presque entièrement conservés et montrent encore une exécution splendide du côté artistique et constructif. Cette perfection d'ouvrage nous assure que les courbures qui nous pouvons y constater sont vraiment voulues par l'artiste; ce sont en effet des 'refinements.' La doute qu'il puisse s'agir d'un hasard ne vaut pas ici.

"Personne, cependant, que je sache, n'a remarqué ni mesuré avant moi la courbure du temple. Toutefois cette courbure existe et est très sensible. La concavité, qui est très petite à la base des colonnes, où elle mesure dix ou douze centimètres de flèche, rejoint presque 35 cm. en horizontale (sur une largeur de m. 7.50) dans la corniche, un peu en retraite du soubassement au milieu. Le fronton aussi suit ce tracé et la régularité des joints nous assure que ni le hasard ni des modifications ultérieures ont produit cette singulière anomalie. Les flancs n'ont pas de courbe."

add that this feature constitutes its astounding and novel characteristic. It is further to be noticed that no other Roman temple has been so far announced as showing any curves whatever, with the exception of the *Maison Carrée* at Nîmes (PLATE XV),¹ which has curves in the cornices of the flanks which are convex to the exterior.²

Aside from the assurances given by Professor Giovannoni as to constructive intention there are two evidences of such intention which speak for themselves, even to those who have not examined the temple; viz., that the curve is found at the bases of the columns and that a concave curved deflection in plan, of the cornice and gable, to the extent of 14 inches, could not have been the result of accidental movements, without the appearance in the connected structure of very visible and palpable dislocations, which must also have visibly affected the supporting columns, either at the angles or near the centre, one or both.

As regards the theories which have been advanced to explain the ancient curves, the discovery of curves at Cori, concave in plan to the exterior, has a revolutionary and far-reaching significance. The optical effect above the level of the eye of a curve concave in plan is that of a curve in elevation (that is, of a curve in a vertical plane) which descends towards the centre. Consequently the explanation which has been so widely quoted and credited, that the ancient curves were intended to correct optical effects of sagging downward, is immediately and decisively thrown out of court in the case of the temple at Cori, for it is exactly an effect of sagging downward which is actually produced by this curve, so far as the upper horizontal lines are concerned.

So conclusive an argument leads us to examine the previous standing of the widely spread impression that the Greek curvilinear refinements were intended universally to correct optical effects of sagging and thus cause the lines to appear straight.

¹ The upper dotted line suggests the optical effect of the curves in plan, convex to the exterior, which are found on the flanks of this temple.

² The constructive existence of these curves has been verified by the official architect of the city of Nîmes and also by his predecessor in the same position. See Smithsonian Reports for 1894 (published in 1896), 'A Discovery of Horizontal Curves in Plan in the *Maison Carrée* at Nîmes.' Under the same title see also *A.J.A.*, First Series, X, 1895, pp. 1 ff., and *Arch. Rec.*, IV, 1895, No. 4.

This explanation is frequently quoted for the rising curves in elevation, such as are found in the Parthenon and some other Greek temples; and these are the curves which have so far generally received attention. It is true that different curves may have been employed in different ancient buildings for different reasons. It would be establishing a very important fact, if this fact alone were proved by the instance at Cori, but the opportunity is a convenient one to point out that the widely quoted explanation is essentially a popular misapprehension of an entirely different proposition and has never been mentioned by any of the optical experts who have made special publications on the Greek curves.

It is a popular modern prejudice that architectural lines ought to *be* straight. Consequently the suggestion appeals to the popular mind that the Greeks curved their architectural lines in order that they might *appear* straight. Hence, probably, the widely quoted but really mistaken statement that all horizontal architectural lines tend to sag optically at the centre. This impression among architects may be due to the occasional practice of cambering interior flat ceilings or tie beams under a gabled roof, but the problem of optical effects in such interiors has no relation to the general, but mistaken, proposition.

It is an elementary proposition in perspective that horizontal lines above the level of the eye, on near approach, curve downward toward the extremities. This is most easily realized by assuming the position of the spectator to be opposite the centre of a building of such dimensions that the head has to be turned first in one direction and then in the other in order to take in the entire upper line. As the really horizontal upper line to the left of the spectator will descend optically in perspective towards the left, and as the really horizontal upper line to the right of the spectator will descend optically towards the right, it is manifest that the eye in passing from left to right, or from right to left, must see the whole horizontal line optically as a curve descending towards the extremities and highest in the middle. It is equally true that all lines which descend in perspective in a single direction must descend in a curve, optically speaking, because the line which is really straight and horizontal descends in gradually increasing amount according to

the distance from the eye. Consequently an actually horizontal straight line which, optically speaking, changes direction from point to point must necessarily change direction, optically speaking, in a curve. It is only the mental knowledge that the line is really straight and horizontal which interferes with the perception that the line is really seen as a curve.

The interference of a mental conviction, based on general positive knowledge, with an actual optical appearance is a well-established fact. This interference of the brain with the true facts of vision has been ably described by Professor Guido Hauck in a publication to be presently quoted. Professor Hauck found that the ability to see the rising curves which optically exist in all horizontal lines above the level of the eye (unless interfered with by other lines) was strongest in women and in the persons whom he calls "Naturmenschen," among whom he includes artists, whereas persons with mathematical and scientific training were frequently unable to see the curves at all. He also found in his own experience a progressive improvement in his ability to distinguish the curves as actually seen by the eye. He also found that optical curves in lines really straight and horizontal could be seen in a line of separated lights illuminating an architectural line at night, when they could not be seen in the same architectural line by daylight. The mental conviction had an effect on the continuous line which it did not have on separate points of artificial light, not visibly connected by the architectural line.¹

¹ The mental corrections of optical appearances which are described by Professor Hauck have a curious analogy in the experience of Mr. John W. Beatty, M.A., Director of Fine Arts in the Carnegie Institute at Pittsburg, Pennsylvania. The following extract from his letter to me on this subject is published by his permission:—

"Briefly put, my experience was this: When I first put on glasses for astigmatism, perpendicular lines appeared not parallel, being wide at top; in the size of a newspaper page, about one and one-half inches wider than normal. When I had worn the glasses for several months, lines seemed again parallel. Now, when I take the glasses off, lines are again not parallel, but *wider at the bottom*. Dr. Lippincott's theory was that I had always made mental correction, and lines recorded on the retina out of parallel were made to appear parallel by virtue of mental correction. This seems to be absolutely proven by the history of the case, as above briefly outlined. When I take the glasses off now, I see lines imperfectly at the instant of time, because the brain is not given time to correct the defect. The fact that the greater width is now at the bottom

All these facts assist us to understand why lines which are optically seen as curves are not generally recognized as curves by the everyday human being. They also enable us to understand that the perception of the curves which are optically present in the facts of vision varies according to temperament and according to training. As a matter of fact there is no perspective which is not curvilinear, but as these perspective curves are too delicate to be generally represented in the dimensions of pictures, instruction in perspective, as regards draughtsmen and painters, generally ignores them and hence does not tend to counteract the average human indifference to their existence, which is due to mental correction.

All these points bear on the popular error that there is a natural sagging effect in architectural horizontal lines above the level of the eye; but no optical expert who has made a special study of the Greek curves has ever suggested that such a general sagging effect exists.

Thus the first investigator who made publication on the subject supposed that the Parthenon curves were intended to accent and increase perspective effect, because they develop and accent a form of curve which already exists in the normal optical appearance. This investigator was Hoffer, whose observations, measurements, and publications were made in 1838, and thus anticipated the earliest observations of Penrose by seven years and his publication by thirteen years.

Hoffer's publications were made in the *Wiener Bauzeitung* for 1838, whereas Penrose did not visit Athens till 1845 and did not publish his *Principles of Athenian Architecture* until 1851. The discovery of the Parthenon curves by Penne-thorne in 1837 is generally supposed to have preceded the observations of Hoffer, but the publication of Hoffer long preceded that of Pennethorne, which appeared in 1878.

It will be observed that I am not advocating at present the explanation of Hoffer; I am simply pointing out that he was the first expert who made a special publication on the Greek curves and that, so far from suggesting that these curves were

without glasses, whereas it was at the top with glasses when they were first used, is significant. You will find the reference to my case in the *Archives of Ophthalmology*, Vol. XVIII (1889), p. 18, and more particularly p. 28."

intended to correct an effect of sagging, he supposed that they were intended to enhance and exaggerate a curve of exactly contrary character, and that this curve was mentioned by him as the ordinary optical appearance due to perspective.

The popular impression that the rising curves were intended to correct an effect of sagging, popularly said to be inherent in horizontal lines generally, is probably simply a misapprehension of the theory of Penrose, who never, however, suggested any such appearance in horizontal lines as a general rule. Penrose rested his theory of correction on the optical tendency of a horizontal cornice to curve downward under a gable, because the lower acute angles of the gable tend to appear wider than they actually are; therefore the bottom line appears depressed at the angles, and as the effect of depression gradually decreases according to the distance from the angles, therefore the depressed line appears as a downward curve. According to Penrose the rising curve under the gable was to counteract and correct this effect. But as far as the flanks are concerned Penrose supposed the curves to be explained by the sentiment of beauty and the appearance of strength, but to have been originally suggested by the application of the curve as an optical correction under the gable. Thus we are led next to ascertain the present standing of the gable theory of Penrose, which appears to be the original form of the debated popular impression, although it is really a wholly distinct proposition.

This leads us to consider what other authorities later than Penrose have had to say about his gable theory. This gable theory has never, to my knowledge, been accepted or even favorably mentioned by any German optical authority. On the contrary, it has been vigorously and successfully contested by the two greatest German authorities who have subsequently discussed the curves from the standpoint of the expert in optics. First, Thiersch¹ added to a variety of solid arguments one which must appeal to every understanding, whether that of an expert or not. The argument is, namely, this: If Penrose was correct in believing that the curves of the entablature and cornice at the ends of the temple were in-

¹ 'Optische Täuschungen auf dem Gebiete der Architectur,' *Zeitschrift für Bauwesen*, XXIII, Berlin, 1873.

tended as an optical correction under the gable, and to make the lines appear straight, how does it then happen that the stylobate is curved also, for which no such gable effect exists? This argument is unanswerable. Its only weakness is that it is so simple, so conclusive, and must be so briefly stated, that it falls short of effect from sheer simplicity. It is not necessary here to rehearse the special theory of Thiersch, who thus and otherwise contested the gable theory of Penrose, because it has also been thrown out of court by two subsequent publications. One of these publications was that of Guido Hauck.¹

Although Hauck abandoned the new explanation of Thiersch, he approved, rehearsed, and elaborated the arguments which led Thiersch to reject the theory of Penrose, especially dwelling on the point that the stylobate need not have been curved if the object of the curve was to correct an apparent deflection under the gable. Both Thiersch and Hauck also urge the sensible view that to consider the curves of the entablature on the flanks of a temple as purely an afterthought is a far-fetched and wholly unsupported hypothesis. Let it be also observed that the theories of Thiersch and Hauck which proposed to supplant the theory of Penrose make no reference to a general sagging effect in horizontal lines, and Hauck expressly develops the fact that horizontal lines above the level of the eye tend normally to curve downward toward the extremities instead of curving upward toward the extremities, as they would if they had a sagging effect. Thiersch alludes to the same fact as holding for near approach.

The publication of Hauck is undoubtedly the most valuable and far-reaching contribution to the optics of rising curves in elevation which has ever been made. But as an explanation of the subject of curvilinear refinements, viewed as a whole, it has also been thrown out of court, and therefore needs no detailed description. It is sufficient to say that it is based, like the theory of Thiersch, on the form of the Greek temple and on the idea that the curves were invented by the Greeks and that these curves were always rising curves in elevation.

Neither Thiersch nor Hauck was acquainted with the *curves*

¹ Dr. Guido Hauck, *Die Subjective Perspektive und die Horizontalen Curvaturen des Dorischen Styls*. Stuttgart, Conrad Wittwer, 1879.

in plan of the cornice, convex to the centre of the court, in the second Temple Court of Medinet Habou (PLATE XVI). These curves were discovered by Pennethorne in 1832, but he did not publish them until 1878. This was only a year before Hauck's publication, and the Egyptian curves were still unknown to Hauck in 1879. If the gable theory of Penrose required a final death blow, it would be furnished by the curves in plan of the second Temple Court of Medinet Habou, where there are naturally no gables. But the curves in plan at Medinet Habou also fall outside of the special theories of both Thiersch and Hauck, and this is why I have not explained the latter's view. It will not be overlooked, however, that the optical effect in the cornices at Medinet Habou is that of a rising curve in a vertical plane. At the angle of 45 degrees the spectator has the effect of a rising curve in elevation of an amount equal to that of the curve in plan (PLATE XVII).¹ At points farther removed the curve appears less. At nearer points the effect is greater and increases enormously on close approach. Thus on close approach the normal perspective curve is much exaggerated.²

¹ The upper dotted lines show the optical effect of the curves in plan.

² The theory of Thiersch, briefly stated, starts from the illusion which tends to affect the appearance of two lines meeting at an angle. These effects were cited by Penrose for acute angles, as calling for a correction under the gable. Thiersch, however, points out that, whereas acute angles appear larger than they really are, obtuse angles appear smaller. His arguments contend that the direction of Vitruvius regarding the construction of the curves was limited to those temples which stand on an elevated platform above the level of the eye. Thus the Parthenon, as seen by a spectator *looking toward one of the angles*, would exhibit obtuse angles both in the stylobate and in the entablature (with the apex of the angle turned toward the spectator). These angles would appear smaller than they are, and as this effect decreases with the distance from the angle, the lines would appear to curve downward away from the angle. This effect would be corrected by a rising curve in elevation. Hauck contested this explanation on the ground that the optical deflection of the obtuse angle was so inconsiderable that a correction would not be needed, but more particularly because such a correction would, in any circumstance, only be needed for the spectator looking toward the angle of the building, and would not be needed in views facing the front or sides. Hauck based his own theory on the fact that the intercolumniations of the Parthenon are smaller at the angles, by about two feet, in order to admit of placing the corner triglyphs at the angles of the building, instead of placing them over the centre of the abacus, where they normally appear. This diminution of spacing gives an increase of perspective from the

Still another argument against the gable theory of Penrose is furnished by the Brooklyn Museum surveys of 1895. The

point of view facing any side of the temple from positions nearly opposite the centre. Hence according to Hauck, if the perspective rising curves in elevation were not also correspondingly increased, the perspective effect of the columns would be out of harmony with the perspective effect of the horizontal lines. Thus Hauck in a sense returned to the explanation of Hoffer. For although he held that perspective exaggeration, for its own sake, would not have been in line with Greek feeling, he also held that this perspective exaggeration was properly sought in view of the contradictory effects otherwise produced by the necessary narrowing of the angle intercolumniations.

As the title of Professor Hauck's monograph indicates, he supposed that the Greek curves were confined to the Doric style, in which style alone the angle intercolumniations were reduced, in order to allow the triglyphs to be placed at the angles of the temple. Since that date the discovery of curves in the Ionic temple at Pergamon would have vitiated his theory, but it is also wholly unavailable for the curves at Medinet Habou. So far as the theory of Thiersch is concerned the openings of the obtuse angles in the interior of the court at Medinet Habou are turned toward the spectator, not away from him (as in the exterior of a Greek temple). The angle illusion, if any were produced, would, therefore, be a rising curve in elevation and would thus need no correction.

Although the theories of Thiersch and Hauck are no longer tenable, their publications still have great interest and importance as critiques of the theory of Penrose, and otherwise.

It ought perhaps to be added that the theory of Thiersch is the only one which has ever even been offered, to explain the account of Vitruvius. Although the explanation of Vitruvius has been otherwise universally discarded, or (more generally) ignored, it ought to be possible to determine his reasons, even if his explanation be not correct. Vitruvius directs that the stylobate of the temple shall be built with a rising curve in elevation, lest it appear "alveolated" (like the bed of a channel) and the curves of the entablature are considered as a mere outcome or logical sequence of the stylobate curve. Thiersch moves from the fact that Vitruvius is speaking of temples resting on a *podium*, that is, above the level of the eye of the exterior spectator, and that the effect of sagging from the exterior point of view was to be counteracted by the curve. I will venture to suggest that Vitruvius is speaking of an effect of "alveolation" for the spectator standing on the platform. It is a logical result of the laws of curvilinear perspective that all plane surfaces below the level of the eye must tend optically to "dish"; that is, to appear like a dish or bowl. Aeronauts find this appearance in the earth's surface when raised above it in a balloon, for the same optical reason. The same optical laws explain the dome-shaped appearance of the sky. Thus, although the explanation of Vitruvius is certainly insufficient to cover the known facts, it appears to be a common-sense and practical explanation, which deserves recognition and mention, among the many which have been offered. It is additionally interesting from the fact that it is not simply the outer porticos of the Parthenon which have the stylobate curves. The entire platform of the temple is delicately hemispherical; or, as the French would say, *bombé*.

photographs, taken under my direction, of the Temple of Concord at Girgenti, show that there are rising curves in elevation on the flanks (PLATE XVIII),¹ but no curves under the gable (PLATE XIX). Hence the curves of the flanks could not well be an afterthought derived from the curves under the gables, since the latter do not occur in this temple. This very important argument against the gable theory of Penrose has never been adequately published.

Penrose had based his argument for the derivation of curves on the flanks of a temple from the curves under the gable, on the high antiquity of the Temple of Poseidon at Paestum and on the supposed fact that this temple had curves under the gable, but none on the flanks. Thus, for Penrose, the Temple of Poseidon represented the primitive type of the Greek curves, but he was ignorant that Jacob Burckhardt in his "Cicerone" had announced constructive curves in plan convex to the exterior on the flanks of the Temple of Poseidon. These curves were photographed for the first time by the Brooklyn Museum surveys of 1895 (PLATE XX).

From the preceding summary two results are fairly well established. First, the popular impression that the Greek curves were intended to make the lines look straight, and to correct effects of sagging supposed to be inherent in straight lines above the eye, is without authority, so far as the quoted experts are concerned, and the theory of Burnouf, in the *Revue Générale de l'Architecture* for 1875, is too fanciful to require more than passing mention here.² The second result is this. So far

¹ Straight lines have been drawn on the negative, in order to show the rising curves in elevation of the stylobate and entablature.

² Even the briefest mention of Burnouf ought not, however, to omit to give him credit for having, alone among modern authors, given the correct explanation of the *scamilli impares* of Vitruvius. Penrose supposed that the *scamilli impares* were the drums of the columns which rested on the stylobate. These drums, in the Parthenon, are of unequal height on opposing sides. Otherwise the columns resting on the curved and sloping surface, would lean away from the centre of the temple. This interesting proof of the intended construction of the curves is not, however, the true explanation of the *scamilli impares*, by means of which the curves were to be constructed. Even in the second edition of his *Principles of Athenian Architecture*, published in 1888, Penrose was still ignorant of the obviously correct explanation offered by Burnouf in 1875. It is significant of the general neglect by archaeologists of the subject of

as Penrose is concerned, he only suggested a sagging effect under the gables at the ends of a temple as the explanation of the curves. Against this theory the following points may be urged. It has not been accepted or favorably mentioned by any French or German expert. It has been vigorously opposed by two distinguished experts in optics, and the theory of Hoffer is also opposed to it in principle. It is finally thrown out of court by known facts in Egypt and at Girgenti.

We are now able to return to the discovery of Professor Giovannoni at Cori, which disposes of the gable theory of Penrose for all time, as a general or universal explanation of the classic curves, for the simple reason that the curve at Cori produces a sagging effect in the upper horizontal line and therefore could not counteract one.

But the discovery does far more than this; it forces a revision of most of the other theories on Greek curves and widens our views regarding them to a very remarkable extent. And before I take up this phase of the subject I wish to point out the possibility that the curves at Cori may not be the only ones which are concave to the exterior, even in existing classic monuments.

Pennethorne observed curves *in plan* concave to the exterior in the entablatures at the ends of the Parthenon. Hoffer explicitly described the same curves and measured them. The plan of these concave curves, with measurements, is published in the *Wiener Bauzeitung* of 1838. Hoffer described these curves in plan as beginning in the capitals, as continuing in the entablature and sloping cornice, but as not being found in the face of the tympanum. They amount to about two inches only, at the cornice. Penrose quotes the observation of Pennethorne

Greek curves that Burnouf's explanation has not even been alluded to by any other authority.

Burnouf points out that *scamillus* is a diminutive of *σκαμνος*, and may be translated as "a little stool" (Burnouf says *un petit banc*). These little stools were the small pyramid-shaped sighting blocks which are still used in France for levelling a line of steps or a masonry platform. If placed in graded unequal sizes, gradually increasing in height from the centre toward the extremities of the line of steps, such *scamilli* could be used for constructing a curve, and, as Burnouf says, it was as easy in antiquity to construct a curve with these implements, as it now is to build to a level. He also points out that such *scamilli imparaes* must have been used for building curves in plan.

and gives his reasons for believing the curves to be accidental. In deference to Penrose, Pennethorne, in 1878, adopted his view that these curves were accidental. The argument of Penrose is that the gaps between joints were greater in the rear than in the front. Hoffer's observation that the tympanum surface is without curve would appear to suggest that the curves above and below it could hardly be due to accidental movement. No decision on such a head can be reached, or even suggested, in this paper, and the explosion which ruined the Parthenon is not to be forgotten, but it is surely worth remembering, in face of the concave curves at Cori, that concave curves in the Parthenon gable fronts were observed, measured, and published in 1838, by Hoffer, as constructive.

There is another observation on this head which is attested by the photograph herewith published. In 1895, I observed curves in plan concave to the exterior in the eastern pediment of the Temple of Poseidon at Paestum, and they were photographed at that time. This photograph (PLATE XXI) shows the concave curve in the line of abaci as well as in the cornice. I have never previously published these facts, for lack of time and opportunity, but I was moved by the observation at Cori to make them known to Professor Giovannoni and to send him a photograph. This observation has been laid before the Roman Society by Professor Giovannoni at their session of November 6, 1906, and the President of the Society has been kind enough to write me a congratulatory letter on this subject. It appears to me of high importance that the curve in plan at Paestum, concave to the exterior, should be carefully examined by experts, on the site. Whatever the result at Paestum might be, the curves at Cori still remain the first conclusively demonstrated constructive curves in plan, concave to the exterior, which have ever been found in a classic monument.

This is the proper point at which to close this paper, for it is not my purpose to explain these concave curves. So long as it appears certain that the facts now known are sufficient to compel new explanations it seems hardly worth while to figure as a theorizer. It is mainly my wish to show that previous explanations of the classic curves are insufficient to cover the facts now known. I may, however, add that Professor Giovannoni's

announcement of the curves at Cori was made to the Roman Society of Architects in a report of a favorable nature regarding my own observations of mediaeval asymmetries and deflections. Therefore, I may also add that the closest mediaeval analogy to the façade at Cori is that offered by the lower façade of St. Mark's at Venice, which curves concave to the exterior, from the foundations up, with a deflection of 10 inches at the foundations (PLATE XXII).¹

It appears highly improbable that the façade of St. Mark's was curved for the effects of concavity in the upper line.² It is rather probable that the entire surface of the façade was considered. As regards line effects the curves would, below the level of the eye, produce the optical effect of rising curves in vertical planes. Above the level of the eye they would produce the optical effect of descending curves in vertical planes. These line effects are optically contradictory and therefore optically illusive. They must, therefore, give to the façade an effect of "life" or of optical mystery and vibration.

As regards views slanting along the façade of St. Mark's from left to right, or *vice versa*, the perspective effect is enhanced very considerably in the way of magnitude, if the terminal upright lines, rather than the upper horizontal lines, be considered. But here again it appears more likely that an effect of optical mystery and vibration, rather than a direct increase of size in perspective, was considered. It may be that the delicately varied effects of light and shadow, which are involved in a curved surface, were the dominant consideration.

As regards the façade of St. Mark's, it should be remembered that only the lower façade is in question, and not the upper façade, which stands back of a wide platform, bounded by the cornice of the lower façade. Although this cornice has not been levelled or plumbed, it appears to rise from the extremities toward the centre so as to correct the effect of concavity at the cornice line. (In the upper façade the pinnacles are arranged in descending heights from the centre toward the extremities.)

¹ The deflection is best seen on the outer line of the paving slabs in front of the church.

² And especially so for the reason mentioned later, that the cornice line appears to the eye to be built with slight obliquities rising from each end toward the centre, so as to correct the effect of concavity.

In simple language, and aside from optical explanations, the façade of St. Mark's, in my opinion, gains vastly in artistic charm by its delicately and imperceptibly curvilinear surface, as well as by its subtle variations in the dimensions of the arcades. If mediaeval curves be admitted to have been constructed at all, it must be conceded that the lively effect of the curved line or surface was held to be superior to the rigidity and greater formalism of the straight or plane surface, and that no other universal explanation can be offered. Whether or no this lively effect is physiologically due to optical mystery, which is again due to an optical vibration between the contradictory optical effects which must always be found in delicately distorted architectural surfaces or lines, or whether it is due to varied effects of shadow, is hardly worth debating. It may be that both explanations have to be considered. I offer the suggestions for what they are worth, with the remark that the concave curve in plan at Cori demands some kind of explanation.

If mediaeval analogies be excluded, it is still evident that some explanation similar to those which have just been offered for them must now be sought for such ancient curves as are found at Cori. This involves farther reference to the concave curves in the Parthenon, if for no other reason than the one that other experts than Hoffer have already been inclined to admit their constructive existence. Thus Reber¹ considers the concave curves of the Parthenon to be constructive. His explanation is significant in view of the fact that the optical effect, in front view, is that of a descending curve in a vertical plane, which equals the amount of the curve in plan at the angle of 45 degrees, which decreases in amount from farther points of view, and which increases in amount on nearer approach. Reber holds that the concave curve was intended to contradict and decrease the excessive curve in elevation due to the combination of the optical perspective effect in elevation, on close approach, with the constructive curve in elevation. The interesting feature of this explanation (although it cannot be applied to Cori) is that it realizes the two effects as being contradictory. Hauck quotes the explanation

¹ *Kunstgeschichte des Alterthums*, p. 207.

of Reber with tentative approval¹ and expressly affirms the principle that the effects of a rising curve in elevation and of a concave curve in plan are contradictory, and that the optical effect of the concave curve is that of a descending curve in a vertical plane. It is, of course, understood, as Hauck points out, that the contradictory effect is insignificant from distant points, and then almost disappears.² It is also understood that whereas the rising curve in elevation has its greatest relative effect from a distance, the optical perspective curve is far the greater on close approach, so much so, that on close approach the constructed curve in elevation is not an important addition to its amount. Neither Reber nor Hauck has considered the possibility that the concave curve might have been considered desirable for its effects from the slanting side view, and Hoffer is at a loss for any explanation.

Although the constructive facts in the Parthenon may be held to be doubtful, the above explanations are of value as showing the difficulties which have hitherto surrounded the explanations of concave curves in plan, and also as showing that the effects of concave curves in plan above the level of the eye are recognized by optical experts as being those of descending curves in elevation for the front view.

The concave curves at Paestum do not appear to be exposed to suspicion on the score of constructive existence, and here again there are also rising curves in elevation at each end of the temple.

For the Temple of Cori the question is not complicated by the existence of curves with contradictory effects, but it still remains to be debated whether the side effect was not considered as much as the front view. The Temple of Cori stands on a high elevation, and the front view from below would, on near approach, much increase the optically descending effect toward the centre of the curve. For such points of view it could only be presumed that the curve was considered more agreeable than the straight line, without reference to the question whether it was a rising or a descending curve. For the

¹ *Op. cit.*, pp. 109, 144.

² It would disappear entirely when the eye is on the level of the concave curve. Here the concave curve appears as a straight line.

side view the effects would be optically contradictory as regards perspective, an effect of increase if the vertical terminal lines be considered, and an effect of decrease if the upper horizontal lines be considered.

It is a natural result of our interest in the surviving ancient monuments, that we tend to overlook their actually very small number and the enormous number of those which have utterly disappeared. The discovery at Cori makes it probable that curves were employed in ancient art to a much greater extent and in much greater variety than has hitherto been supposed. The same conclusion would inevitably be suggested by the possibility that the mediaeval curves are historically related to the classic; because the mediaeval curves exhibit a variety of character and use far surpassing that which has been hitherto presumed to exist in antiquity.

In a paper which I published in this JOURNAL, Vol. VI, 1902, pp. 166 ff., 'Architectural Refinements in Italian Churches,' I discussed the optical effects of the cloister curves, convex to the centre of the court, at Verona and Bologna. I pointed out that the line effects were contradictory above and below the level of the eye inside the corridors, and that they were again contradictory, but in the reverse sense, as observed on the exterior, *i.e.* from the interior of the court. From this I argued that the curve must have been preferred for its own sake and independent of any definite particular perspective effect. It has since occurred to me that an effect of vibration or of optical mystery in such curved lines or surfaces, must result from the shifting of the eye to different lines or planes of sight or from the inclusion, at points more distant from the eye, of such contradictory effects within the limits of fixed vision in a single direction. In churches like S. Apollinare Nuovo at Ravenna, which have true parallel curves in plan in the alignment of columns, continuing in the walls of the clerestory, it is evident that the optical effects must again be contradictory on the two sides of the nave, because the columns and wall surfaces are concave to the nave on one side and convex on the other.

In the Pisa Cathedral, moreover, where the gallery parapets are built in parallel curves in plan (which continue in the walls

above) the same parapets also have constructive rising bends in elevation (*Arch. Rec.* VI, No. 4).

Thus, from the pavement below, the curve in plan increases the effect of the bend in elevation on the south side, where it is convex to the nave, and decreases it on the north side, where it is concave to the nave. (For the north side of the nave, the facts are analogous to those in the Temple of Poseidon at Paestum, and in the Parthenon, where contradictory effects are found in the cornice.) It may also be pointed out that, wholly aside from curves, I have always contended that effects of optical mystery were studied at Pisa. The explanation is offered for what it is worth, and any others would be equally satisfactory to me which cover all the constructive facts.

Finally, as regards relationship in feeling, if not in continuity of historic practice, as between Antiquity and the Byzantine and Romanesque monuments of Italy, the authority of Jacob Burckhardt may be cited. Ernst Foerster, in his *Handbuch für Reisende in Italien*, I, pp. 364-365, was apparently the first to announce intentional irregularities of line in the Pisa Cathedral. He held them to be "die unbeholfensten Aeusserungen des romantischen Kunstgeistes." Jacob Burckhardt's footnote to the account of the Leaning Tower in his "Cicerone" quotes Foerster's idea as follows:¹

"For the history of art Foerster's opinion about the relation of the Leaning Tower to the irregularities of measurement, oblique and bent lines, irregular intervals, etc., would be much more important [than his opinion about the Tower itself]; in all these things he sees a dislike of mathematical regularity and of exact symmetry; these are said to be 'the clumsy expression of Romanesque endeavor' (Die unbeholfensten Aeusserungen romantischer Bestrebungen). *Since we must unconditionally admit something of the kind in Greek temples, this view has something very attractive.* I believe, however, that the given phenomena must be otherwise explained, and, namely, not by want of dexterity, — which could not be suggested for the noble Pisan buildings, — but by an indifference to mathematical accuracy, which was peculiar to the earlier Middle Age."

Burckhardt then proceeds to give examples of this indiffer-

¹ This footnote appears only in the first three editions.

ence (which certainly also existed). The footnote just quoted inspired me to make a personal call on Jacob Burckhardt at Basel in 1870. I showed him the measurements and drawings which I had just brought from Pisa. He advised immediate publication, and professed his previous ignorance of the facts thus brought to his notice. Thus my own contact with Burckhardt showed that he was not familiar with the constructive facts at Pisa, whereas to him belongs the original suggestion that, if the constructive facts exist, they would be analogous in feeling to the deflections and asymmetries of Greek temples. (Burckhardt's matter on the Temple of Poseidon at Paestum to which he refers in this footnote has been retained in later editions.) To Foerster, on the other hand, belongs the original suggestion that obliquities and bends were intentionally constructed at Pisa. He can hardly, however, have noted the true and delicate curves which are also found in the cathedral, for these certainly cannot be called "unbeholfen" or clumsy.

As a final suggestion for façades like those of St. Mark's and Cori it appears that the varying effects of light and shadow may have been the important consideration. Since these varying effects of light and shadow were notoriously studied with the greatest care in the profiles of classic architecture, why may they not have been considered for the surface of the façade at Cori? The same explanation may be sufficient for the concave curves of Paestum and of the Parthenon.

WILLIAM H. GOODYEAR.

AN INSCRIPTION OF THE CHARIOTEER
MENANDER¹

THIS inscription (Fig. 1) is on a slab of white marble, 0.105
× 0.205 × 0.037 m., and was obtained by the Director of the
American School in Rome in December, 1905, from a dealer who

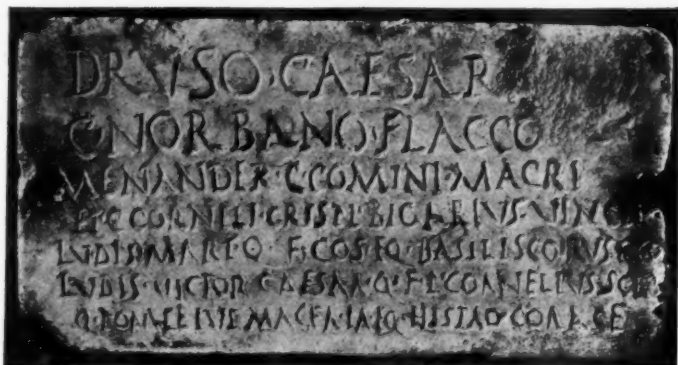


FIGURE 1. — INSCRIPTION OF THE CHARIOTEER MENANDER.

stated that it was found near the new Corso di Porta Pinciana.²
The two iron nails by which the stone was attached are still in

¹ For some time I have been preparing for publication a catalogue of the inscriptions at the American School in Rome. The stone, however, which is the subject of this paper, is of such exceptional interest as to warrant its immediate publication in a separate article.

² Outside the Aurelian Wall, between the Porta Pinciana and the Porta Salaria. On the ancient cemetery between the Via Salaria and Via Pinciana see Jordan-Hülse, *Topographie der Stadt Rom*, I, 3, p. 437. In the course of the extensive improvements and construction of new streets there during recent years, numerous *columbaria* and inscriptions have been found; see *Not. Scav.* 1904, p. 391; 1905, pp. 13, 19, 38, 71, 81, 100, 142, 200, 270, 364, 375, 407; 1906, pp. 96, 121, 143, 181, 211, 251, 299, 336, 357. Our School has a number of other inscriptions from that region.

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place. The minium in the letters is fairly well preserved. The inscription — an admirable example of Roman calligraphy — is in the *scriptura actuariæ*. The first three lines are more monumental in style; in the last four, the hand is more documentary, especially toward the end. Note the forms of A, P, R. The height of the letters is: l. 1, 0.013–0.015 m.; l. 2, 0.009–0.012 m.; l. 3, 0.009 m.; ll. 4, 5, 0.007 m.; ll. 6, 7, 0.006–0.007 m.

Druso Caesare [co]s.
C. Norbano Flacco

Menander C. Comini Macri

et C. Corneli Crispi bigarius uincit

5 *ludis Mart(i) q(uos) f(ecerunt) co(nsule)s eq(uis) Basilisco Rustico,*

ludis uictor(iae) Caesar(is) q(uos) f(ecerunt) P. Cornelius Scip(io),

Q. Pompeius Macer pr(aetores), eq(uis) Histro Corace.

Lines 1, 2: the date is 15 A.D. This is the earliest dated inscription of a Roman charioteer known. *C.I.L.* VI, 10051, mentions games in A.D. 13 ff., but is itself somewhat later. *C.I.L.* VI, 10046, is probably of the time of Augustus; see below.

Line 3: Menander: the *agitor* Menander of *C.I.L.* VI, 10046, l. 8, is perhaps the same person. *C.I.L.* VI, 10075, is perhaps his tombstone; but the name is not uncommon.

C. Comini Macri: cf. Tac. *Ann.* 4, 31 (24 A.D.): . . . *C. Cominium, equitem Romanum, probrosi in se carminis conuictum, Caesar precibus fratri, qui senator erat, concessit.* He is not mentioned elsewhere; we learn his *cognomen* from this inscription.

Line 4: C. Corneli Crispi: he is not mentioned elsewhere, unless he is the Cornelius spoken of in Tac. *Ann.* 6, 29 (34 A.D.): *Verum ab Seruilio et Cornelio accusatoribus adulterium Liviae, magorum sacra obiectabantur. . . 30: Ac tamen accusatores, si facultas incideret, poenis adficiabantur, ut Seruilius Corneliusque perditio Scauro famosi, quia pecuniam a Varro Ligure omittendae delationis ceperant, in insulas interdicto igni atque aqua demoti sunt.*

bigarius: on the *ludi circenses*, see *C.I.L.* I², 1, *index vocab. s.v. ludus*; VI, 10044–10082, 33937–33958; *I.G.* XIV, 1474, 1503, 1604, 1628; Friedländer, *Sittengeschichte*⁶, (1889), II, pp. 325 ff. 498 ff.

Line 5: ludis Mart(i): May 12, see *C.I.L.* I², 1, p. 318 (Mommsen).

q(uos) f(e)cerunt: so in l. 6. Cagnat, in his table of abbreviations in *Épigr. Lat.*², does not record this use of Q.F.

eq(uis): so in l. 7. Cagnat does not record this use of EQ.

Line 6: *ludis victor(iae) Caesar(is)*; July 20–30, cf. *C.I.L.* I², 1, p. 322. There were also presumably special games this year in connection with the celebration of military victories; cf. Tac. *Ann.* 1. 55: *Druso Caesare C. Norbano consulibus decernitur Germanico triumphus manente bello . . . 72: Decreta eo anno triumphalia insignia A. Caecinae, L. Apronio, C. Silio ob res cum Germanico gestas.*

P. Cornelius Scipio: it is hardly likely, although barely possible chronologically, that he is the person mentioned in Velleius, 2, 100, 5: *Quintiusque Crispinus, singularem nequitiam supercilio truci protegens, et Appius Claudius et Sempronius Gracchus ac Scipio alii quoque minoris nominis utriusque ordinis viri, quasi cuiuslibet uxore uiolata, poenas pependere, cum Caesaris filiam et Neronis uiolassent coniugem* (2 B.C.). *C.I.L.* VI, 16203 may refer to him.

Line 7: *Q. Pompeius Macer*: see *Prosopogr. Imp. Rom.* His praenomen occurs here only.

Corace: this name for a horse occurs also in Pausanias, 6, 10, 7; Pliny, *N.H.* 8, 65, 160; on an archaic vase from Caere (Cerveteri), *Annali dell' Inst.* 1848, p. 354; and on a lamp, *C.I.L.* XV, 6250 (CORACINIC).

There remains the question as to the purpose of this inscription, and the occasion of its erection. It is obviously not a burial inscription, and can hardly be an honorary inscription; its form is not what one would have expected on, e.g., the base of a herm of the charioteer himself. It reads almost like a section from some *fasti*. One might perhaps suggest that it was set up, as a memorial tablet of Menander's successes in the year 15 A.D., in the training school or stables to which he was attached. On this question, however, the inscription itself sheds little light; and in the absence of accurate information concerning the circumstances of its finding—in the absence as well of other similar inscriptions¹—a definite conclusion on the subject can hardly be reached.

ALBERT W. VAN BUREN.

¹ *C.I.L.* VI, 10054, 10055, cannot be adduced as parallels.

PRE-ROMAN ANTIQUITIES OF SPAIN

IN order to become familiar with the pre-Roman antiquities of Spain, it is necessary to visit almost every province of the peninsula.¹ A wealth of material has already been collected in public and private museums, but until one makes a careful study of this material, it is hard to realize what interesting problems have been suggested concerning the early inhabitants of Iberia. To be sure, the work is still in its infancy, and it is too early to try to answer many questions which naturally arise. Were the Iberians the aboriginal people of Spain? Under what conditions and when did they reach the acme of their civilization? Are the Basques of to-day the lineal descendants of the Iberians? These are problems still unsolved, but another question, which will ultimately throw light on the entire subject, can be answered. How far were the Iberians influenced by foreigners, and who were these foreigners? That they were the Phoenicians, as was formerly supposed, can no longer be held in the light of recent investigations. That the Phoenicians were mere traders with only a few stations on the Spanish coast, and that the inhabitants of Tartessus (the Tarshish of the Bible) were not Phoenicians but Iberians has been proved beyond doubt by Eduard Meyer, *Geschichte des Alterthums*, II, pp. 141-154, 683-694.

One is forced to admit after a careful study of the antiquities that first pre-Mycenaean or Cretan, then Mycenaean, and finally Greek influence was all-powerful in the development of Spanish art. But at the same time it is easy to see that Iberian art in

¹ The only scientific treatment of the subject known to me is the invaluable book of Pierre Paris, *Essai sur l'art et l'industrie de l'Espagne primitive*, vol. I (1903), vol. II (1904). The results of the excavations are published with good illustrations in the *Revista de Archivos, Bibliotecas y Museos* (Madrid). The illustrations in this paper, except Figure 9, are taken partly from the former and partly from the latter work. See also P. Paris, *Arch. Anz.* 1906, pp. 168-181.

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Archaeological Institute of America, Vol. XI (1907), No. 2.

all its phases had a decided local color. I purposely refrain from a discussion of the Palaeolithic period, the age of cave-dwellers, which is identical with that of France, and also of the Neolithic period, and begin with the Bronze Age.¹

The first illustration (Fig. 1) takes us back to the Mycenaean period. We have before us a beehive grave found at Antequera, north of Malaga, in southern Spain. It was published in the *Revista de Archivos* by Señor Bosco, who very correctly compares it, as his illustration shows, with Mycenaean tholos tombs of continental Greece. The construction is no longer

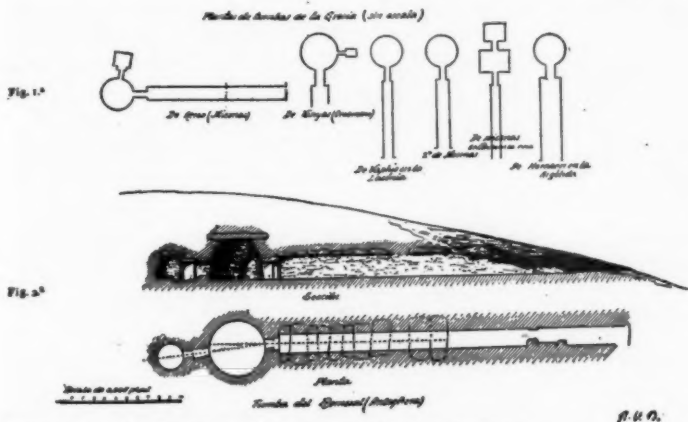


FIGURE 1. — (1) PLANS OF MYCENAEAN TOMBS OF GREECE.

(2) SECTION AND PLAN OF BEEHIVE TOMB AT ANTEQUERA.
(*Revista de Archivos*, XII, pl. 19.)

megalithic, but the walls are formed of rough limestone slabs, bonded with mud, like the later and poorer tombs of Mycenae. The cupola is only 4 m. high. Unfortunately the tomb was robbed, and so its exact date cannot be fixed.

Figure 2 is a section and ground plan of a similar tomb found at Cintra, west of Lisbon, Portugal. Further excavations will doubtless bring to light a large number of such tombs on the east as well as on the south and west coasts of the peninsula.

¹ For a report on the finds in the palaeolithic grotto at Altamira, see *A.J.A.* VIII, 1904, p. 323, and *Arch. Anz.* 1906, pp. 173-175, where the literature is given.

At Tarragona, for example, good specimens of Cyclopean masonry of the Mycenaean style can still be seen in the lower courses of the city wall.

The small votive offerings of priests, priestesses, and deities in bronze, reproduced in Figure 3, are from the rich collection of Señor Vives, who showed me much courtesy last summer in Madrid. Similar types of bronze statuettes are found everywhere in Spain. Mr. Horace Sandars found quantities of them at Despeñaperros in the Sierra Morena, where they were no doubt manufactured. One half of his collection he donated to

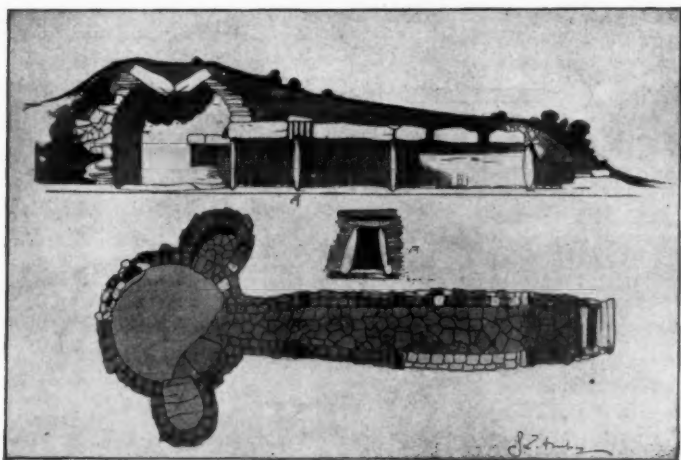


FIGURE 2.—SECTION AND PLAN OF BEEHIVE TOMB AT CINTRA.
(*P. Paris*, I, p. 39.)

the British Museum, where, thanks to the director Mr. Cecil Smith, I had the opportunity last June to study them, although at that time they were not yet exhibited. The other half, Mr. Sandars gave to Señor Vives, who has lent the most important specimens to the Archaeological Museum at Madrid. They date from the early Bronze Age (*ca.* 3000 B.C.) to the sixth century B.C., and many of them show decided influence of Mycenaean or Cretan art.

Fig. 3, Nos. 19 and 20 (*P. Paris*, II, pp. 183, 184, Figs. 280, 281) are probably priests. The former is 97 mm. high, and was found in

Santisteban del Puerto (Jaén); the latter is 89 mm. high, and was acquired at Granada.

No. 21 (P. Paris, II, p. 194, Fig. 311) is probably a priestess. Height 98 mm. From Linares (Jaén).

No. 7 (P. Paris, II, p. 159, Fig. 231). A nude male figure called Mars or Neton by Mélida. P. Paris justly doubts this name, because it is not at all certain that the figure wears a helmet. It seems to be a caricature. Height 81 mm. From Linares (Jaén).

Nos. 26, 25, 27 (P. Paris, II, p. 189, Figs. 303, 304, 305). Veiled female figures. The body of the first is reduced almost to a plaque.

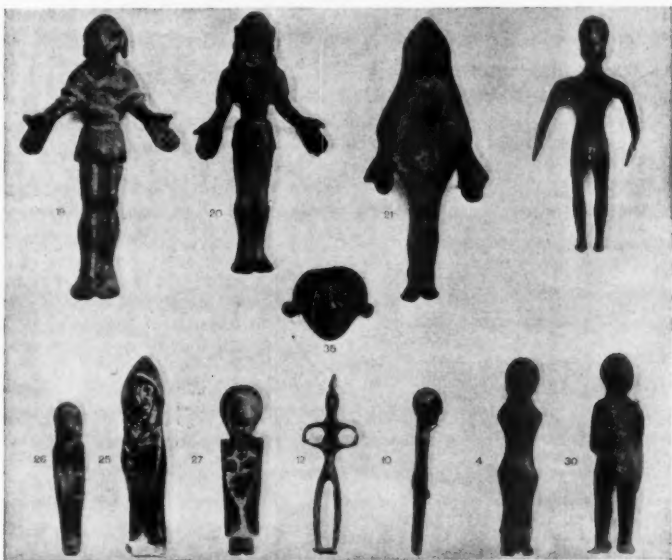


FIGURE 3.—BRONZE VOTIVE OFFERINGS. (*Revista de Archivos*, IV, pl. 6.)

Height 52 mm. Provenance unknown. The second wears a peaked cap and a veil. Height 68 mm. From Castellar de Santisteban (Jaén). The body of No. 27 is reduced to a rectangular plaque, but the head, as in all these types, is worked out plastically, a process which reminds one of the prehistoric terracottas from the Argive Heraeum and elsewhere. In front of the body the hands, with the indication of fingers, and the borders of the mantle are visible. Height 58 mm. From Castellar de Santisteban (Jaén).

No. 12 (P. Paris, II, p. 169, Fig. 252). Probably a god of war, because the figure wears a helmet. It is extremely difficult to date

this type, because it was retained for centuries after its first invention. Similar types are found not only in the early Bronze Age, but also in the early Iron Age. Height 61 mm. From Palencia.

No. 10 (*P. Paris*, II, p. 171, Fig. 258). Male figure with plaque-like body. The curve of the nose, which gives the face a Semitic appearance, is merely accidental. There is no Phoenician influence here. Height 56 mm. Bought at Granada.

No. 4 (*P. Paris*, II, p. 171, Fig. 257). We have here a neolithic type of female idol, such as is found in the second city of Troy (ca. 2500–2000 B.C.), but translated into bronze, a most remarkable example of the early Bronze Age. Height 70 mm. From Puente-Genil (Córdoba). The same type in stone and terracotta occurs also



FIGURE 4.—SAMIAN BRONZE STATUETTE. Archaeological Museum, Madrid. (*P. Paris*, I, p. 108.)

in Spain, and can be seen in the Museo Proto-Historico Iberico at Madrid, Calle de Alcalá 86.

No. 30 (*P. Paris*, II, p. 159, Fig. 233). Not a gladiator holding a sword, as Mérida surmises, but more probably a commander holding a rod or bâton, symbolic of power, as *P. Paris* suggests. Height 67 mm. Bought at Granada.

The most interesting of these bronzes is the mask (Fig. 3, No. 35) with the peculiarly arranged hair. It is early archaic Greek work, and may be more specifically assigned to the

school of Phocaea, because a Phocaean vase, now in the British Museum (C 268) has exactly the same kind of mask painted on either side.¹ It is not surprising to find Phocaean influence in Spain, because the earliest Greek colonies in Iberia were founded either from Phocaea itself or from the Phocaean colony Massalia. The Iberians even received their alphabet from Phocaea (Eduard Meyer, *op. cit.* II, p. 691). As early as the seventh century B.C. Phocaean merchants came to Tartessus,



FIGURE 5.—BULL WITH HUMAN HEAD FROM BALAZOTE. (*P. Paris*, I, pl. 4.)

and soon outbid the Phoenician traders (Ed. Meyer, *op. cit.* II, pp. 692-693).

Samos, too, had dealings with Tartessus in the seventh century B.C. (Ed. Meyer, *op. cit.* II, pp. 692, 533-534), and so it is only natural to find in Spain a genuine Samian bronze statuette (Fig. 4) of the archaic period. It closely resembles the Samian terracottas and the Samian statue dedicated by Cheramyas to Hera.

¹ Reproduced in *J.H.S.* II, p. 304. I do not agree with Walters, *History of Ancient Pottery*, I, p. 254, who calls it Cypriote. On p. 64 of the same volume Walters expresses himself more guardedly and with less assurance regarding its fabric.

A curious bull with human head (Fig. 5), found at Balazote near Albacete in southeastern Spain, shows decided influence of Oriental, *i.e.* Asiatic, art. Heuzey¹ points out various details of technique recalling monuments of Babylonia and Persia. Similar animals have been found elsewhere in Spain.

Figure 6 reproduces three bronze heads of bulls of the Mycenaean period, in technique much like those from Crete.² They were found at Costig in Majorca, an island with many traces of Cyclopean masonry. Indeed, I am inclined to believe that the bull-fights of Spain may go back to the influence

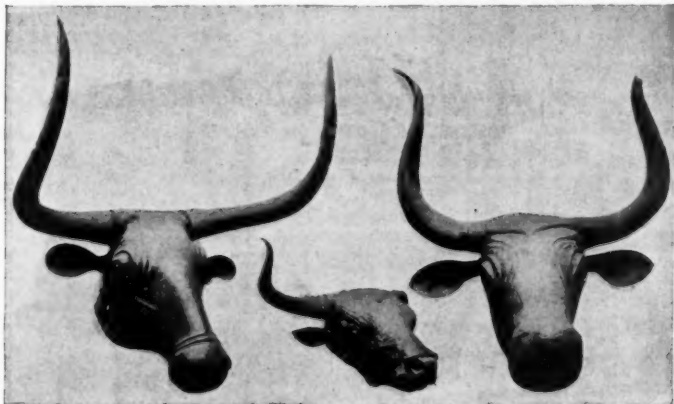


FIGURE 6. — BRONZE HEADS OF BULLS FROM MAJORCA. (*P. Paris*, I, pl. 6.)

of the Minoan Cretans, who are now known to have been very fond of the sport of bull-baiting.³

Figures 7-9 reproduce representative specimens of local Iberian pottery. The pieces in Figure 7 are incised prehistoric black ware from Andalusia and belong to Mr. Bonsor's collection. I saw even earlier ware than this in the Museo Proto-Historico Iberico at Madrid, vases which are identical with

¹ Quoted by P. Paris, *Essai*, I, pp. 118-121.

² The resemblance is more marked between the Cretan type illustrated in *B.S.A.* VI, p. 52, and the Iberian type pictured in P. Paris, *Essai*, I, p. 147, Fig. 112. The horns of the bull on the Cretan agate intaglio (*B.S.A.* IX, p. 114, Fig. 70) are identical with those from Costig.

³ *B.S.A.* VIII, p. 74.

those of the second city of Troy (*ca.* 2500–2000 B.C.). They are hand-made, and the incised lines were filled with chalk. Primitive stone idols similar to those of Parian marble found on the Aegean Islands can also be seen in the same collection. In fact, the art of primitive Spain is identical with that of the entire Mediterranean basin. There must have been much livelier intercourse between those countries in early days than has usually been admitted. From the Mycenaean period down to the Roman domination in the second century B.C. the pottery shows strong Mycenaean influence (Fig. 8), though local peculiarities are apparent. The earliest pieces have curvilinear types of ornamentation; later come vegetable and floral types, and finally animal types (Fig. 9). The latter are

much like those of the sub-Mycenaean pottery of Cyprus. Furthermore, the Messapian ware of Apulia influenced the latest Iberian styles of pottery. Thus an askos of local Apulian fabric in the British Museum (Walters, *History of Ancient Pottery*, II, 326, Fig. 185) is decorated with designs that occur frequently on local Spanish pottery.¹ It may be, however, that the Messa-



FIGURE 7. — INCISED POTTERY FROM ANDALUSIA.
(*P. Paris*, II, p. 43.)

¹ The mask on the askos is also seen on a fragment from Elche (*P. Paris*, II, p. 99, Fig. 197); the fish is similar to the one on another fragment from Elche

pian ware and that of the Peucetians go back to the same source from which the Iberians drew. The local Apulian pottery was supplanted by the Athenian red-figured ware in the fourth century B.C., but the local Spanish pottery remained free from Athenian influence,¹ and continued without interruption down to the period of Roman domination. E. Albertini, a member of the French School at Rome, who has been working at Elche with P. Paris, has begun to publish in the *Bulletin hispanique* (1906, pp. 333-362; 1907, pp. 1-17) a thorough account



FIGURE 8. — PAINTED SHARDS SHOWING MYCENAEAN INFLUENCE.
(P. Paris, II, pp. 76-77.)

of indigenous Spanish ceramics, and much light will also be thrown on the whole subject by the investigations of the German archaeologists Schulten and Koenen, who are making

(P. Paris, II, p. 95, Fig. 184); the S-shaped designs occur on a fragment from Meca (P. Paris, II, p. 100, Fig. 200); the wave pattern occurs also on a fragment from Meca (P. Paris, II, p. 86, Fig. 173); the ivy decoration occurs on a vase from Elche (P. Paris, II, p. 69, Fig. 102); and the star is similar to the star on a fragment from Amarejo (P. Paris, II, p. 54, Fig. 56).

¹ It is noteworthy that the tongue pattern (*Stabornament*), which first makes its appearance in Attic ceramics in the sixth century B.C., does not occur on Iberian pottery.



FIGURE 9. — PAINTED SHARDS FROM ELCHE.

In the Archaeological Museum at Madrid there is a considerable collection of limestone statuary, found for the most part at Cerro de los Santos, near Murcia, in southeastern Spain. This is usually called Graeco-Phoenician; but since this term is now applied — without good reason, however — to Cypriote statuary, and since there is a decided difference between the art of Cyprus and that of Iberia, I prefer the term Graeco-Iberian. The general style of these sculptures — they belong to the sixth, fifth, and fourth centuries B.C. — is Greek, but there are decided local peculiarities in the drapery and jewellery. The statue reproduced in Figure 10 still belongs to the archaic period. It represents a veiled woman, probably a priestess, holding a sacrificial cup and laden with gold jewellery such as has actually been found in Spain. That the Spanish and Moorish women of to-day are just as fond as were their ancestors of veils, mantillas, and jewellery is seen in Figure 11.

One of the richest discoveries of the last decade is the famous gold

systematic excavations at Numantia in the northern part of central Spain. It is interesting to note that this Ibero-Mycenaean pottery, as it is now called, has been found in southern France, brought there most probably by Massaliote traders.

FIGURE 10. — GRAECO-IBERIAN STATUE. (*P. Paris*, I, pl. 7.)



FIGURE 11. — MOORISH WOMAN.
(*Revista de Archivos*, IX, pl. 6.)

and silver jewellery, found in a field 4 km. from Jávea, in the province of Alicante. The masterpiece of this treasure, now in the Archaeological Museum at Madrid, is a diadem of gold, 37 cm. long and weighing 133 grammes (Fig. 12). It is much like the jewellery from Cerro de los Santos, as Mélida, the Director of the Museum, correctly noticed, but he certainly erred in assigning it to a native Iberian artist. Pierre Paris is right in calling it purely Greek, and in comparing it with the Greek jewellery of Etruria and southern Russia.¹

But that it is the work of an Attic goldsmith, as he claims, seems doubtful to me. It is more probably the work of an



FIGURE 12. — GOLD JEWELLERY FROM JÁVEA. (*Revista de Archivos*, XIII, pl. 18.)

Ionian of Asia Minor, who very successfully combined Attic

¹ *Arch. Anz.* 1906, pp. 169-171. *R. Arch.* VIII, 1906, pp. 424-435, pl. VII.



FIGURE 13. — BUST FROM ELCHE.
(*P. Paris*, I, pl. 1.)

pearance. Such are the peaked peculiar disks of gold on either side must furthermore have been personally acquainted with this queenly beauty, for he has given us a very faithful portrait. Her features are not Greek nor are they Semitic. This is probably the best and the truest likeness of a typical Iberian woman that we may ever hope to find.

Figure 14 is a portrait of a modern Spanish woman in Valencian costume. The peculiar coiffure is especially interesting, and has often been cited in explanation of the remarkable headdress of the Queen of Elche.

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delicacy with Ionic sumptuousness.

I have withheld to the last the finest monument ever found on Spanish soil, the much admired bust from Elche (Fig. 13), now in the Louvre. It is a queenly figure, worthy of the hand of a Phidias, during whose lifetime it seems to have been made. The artist no doubt lived among the Tartessians and knew their customs; otherwise he could not have added all that wealth of detail, and all those eccentricities of dress which give his work so foreign an appearance, the golden diadem, the side of her head. The artist



FIGURE 14. — MODERN SPANISH WOMAN. (*Revista de Archivos*, IX, pl. 6.)

American School
of Classical Studies
in Rome

COINS FROM ASIA MINOR

[PLATE XXIII]

The coins described in this paper were collected in Asia Minor during the spring of 1904.

1. Tarsus, Cilicia. Æ 1.4.

Obv. Head of Caracalla r. laureate. [AV]KAMAVPCE VHPO-
CANTONNEINOC CEB. In field, Π Π.

Rev. Female figure wearing calathus, standing l. In l., cornucopiae.
In r., Nike holding wreath.

[AΔ]PCEVHPANTΩNEIOVΠOΛ. To l., KOIN | OBOV |
[Λ]ION. Below [T]APCOVMH | TPOT. In field to l., Γ.
To r., B.

2. Tarsus, Cilicia. Æ .7. Variety of No. 99 in *Cat. Gr. Coins in Brit. Mus.*

Obv. Head of city, turreted and veiled. Fillet border.

Rev. Sandan on horned animal. In l., bipennis. To r., TAPΞEΩN.
Border of dots.

3. Adana, Cilicia. Æ .85.

Obv. Bust of Athena. Crested Corinthian helmet and aegis.

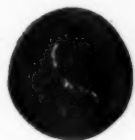
Rev. AΔANEΩN. Nike advancing r. In l., palm. In extended r.,
wreath. To l., ΠP | MA | KA.

4. Ephesus, Ionia. Æ .5.

Obv. ΕΦ. Bee. Laurel border.

Rev. Stag standing r. Head turned to l. Magistrate's name,
[Δ]IONYCIOV.

5. Soli, Cilicia. Æ .5. Similar to *Cat. Gr. Coins in Brit. Mus.*,
No. 34.



6



7



10



9



1



5



11



3



8



12



2



4

COINS FROM ASIA MINOR

BOSTON UNIVERSITY
COLLEGE OF LIBERAL ARTS
LIBRARY

Obv. Head of Athena, r. Crested Athenian helmet.

Rev. Bunch of grapes. Below, $\Sigma\text{OAE}[\Omega\text{N}]$. In field to l., K. To r., AA.

6. Soli, Cilicia. Æ .8. Like *Cat. Gr. Coins in Brit. Mus.*, No. 39, but with the position of the letters reversed.

Obv. Head of Artemis r. Behind, Æ . Border of dots.

Rev. Athena fighting, to r. In l., shield. In r., bolt. To l., downwards, $\Sigma\text{OAE}\Omega\text{N}$. To r., monograms, Δ , and another now illegible.

7. Soli, Cilicia. Æ .65.

Obv. Head of Artemis r., with bow and quiver. Border of dots.

Rev. Cup in shape of Mycenaean cylix, with handle and trace of lip. On either side, branch. Above, KY. To r. and l., $\begin{matrix} \Sigma & \Omega \\ ! & \Lambda \\ \text{O} & \Sigma \end{matrix}$

8. Soli, Cilicia. Æ .5.

Obv. Eagle, border of dots.

Rev. Bunch of grapes. To r., K. Above, $[\Sigma]\text{OAE}\Omega\text{N}$.

9. Side, Pamphylia. Æ .75.

Obv. Bust of Hadrian, r. $\text{AVKAITPAI AΔPIAN}[\text{OC}]$.

Rev. $[\text{C}]\text{!ΔH TWN}$. Athena advancing l., with crested helmet and long chiton. In r., pomegranate and spear. On l. arm, shield. Before her, l., snake. [See *Cat. Gr. Coins in Brit. Mus.*, No. 83.]

10. Clazomenae, Ionia. Æ .7.

Obv. Head of Athena, with Corinthian helmet. Countermark, star.

Rev. Ram walking. Countermark, prow, r. Above, $\Gamma\text{APMI}\Sigma$.

11. Apamea, Phrygia. Æ .75.

Obv. Head of Zeus, r., wearing oak wreath.

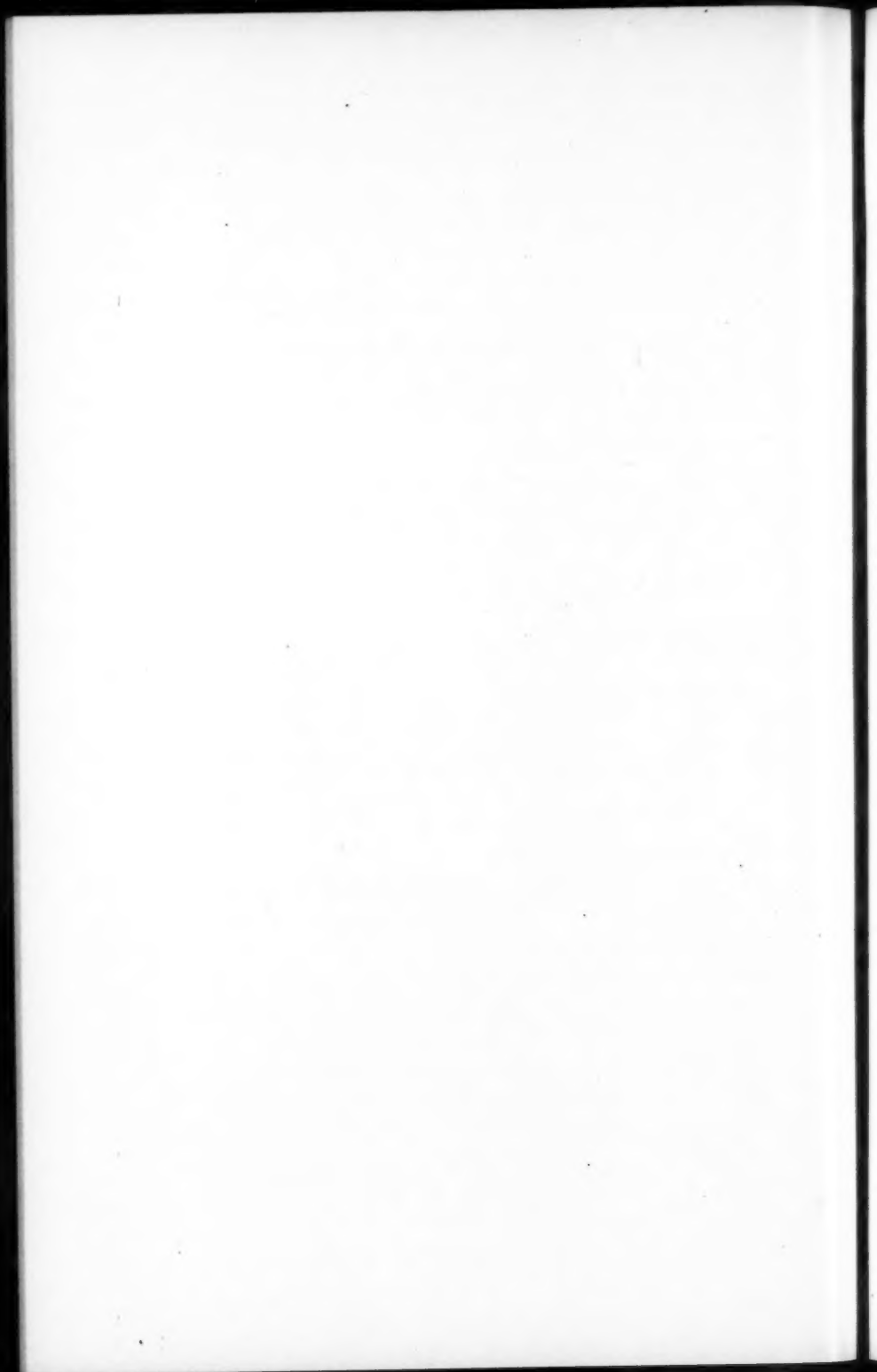
Rev. Cultus statue of Artemis. To r., downwards, $\text{ATTAME}[\Omega\text{N}]$. To l., downwards, $\text{HPAKAE} | \Gamma$.

12. Cremna, Pisidia. \dagger M. B. Similar to Cohen, IV, No. 298.

Obv. Bust of Geta, to r. $\text{P} \cdot \text{SEP} \cdot \text{GETA} \cdot \text{PON} \cdot \text{CAES}$.

Rev. Nemesis with small griffon at feet, l. VLTRI (to l.). COL. CR. (to r.).

C. DENSMORE CURTIS.



1906
July — December

ARCHAEOLOGICAL DISCUSSIONS¹

SUMMARIES OF ORIGINAL ARTICLES CHIEFLY IN CURRENT PERIODICALS

JAMES M. PATON, *Editor*
65, Sparks St., Cambridge, Mass.

GENERAL AND MISCELLANEOUS

Photography of Manuscripts. — In *Jb. Kl. Alt.* XVII, 1906, pp. 601-658 (15 pls.), K. KRUMBACHER discusses in detail the value of photography, and the methods by which it can be economically employed in philological and archaeological studies. He urges students to photograph manuscripts upon paper films, and emphasizes the superiority of this method to collation. It is also relatively cheaper. *Ibid.* p. 727, he adds a few notes.

Materials for the History of Prehistoric Archaeology. — An Unpublished Memoir of Montfaucon on the Arms of the Ancient Gauls and the Neighboring Peoples. — In *R. Arch.* VIII, 1906, pp. 37-48, E. T. HAMY publishes, with introduction, an essay by BERNARD DE MONTFAUCON, written in 1734. In this the theory that the stone and the bronze arms belonged to different contemporary races is maintained.

The Evolution of Culture. — The earliest systematic attempt to apply the theory of evolution to the products of human handiwork was made by Lt.-Gen. A. Lane-Fox Pitt-Rivers, who gathered and arranged the large ethnological collection now at Oxford. His principles of arrangement and his theories of development were set forth in various addresses. These have now been collected with an introduction in which some of the main principles of the author are discussed. The essays are: I, The Principles of Classification, adopted in the arrangement of the author's collection (1874);

¹ The departments of Archaeological News and Discussions and of Bibliography of Archaeological Books are conducted by Professor PATON, Editor-in-charge, assisted by Miss MARY H. BUCKINGHAM, Professor HARRY E. BURTON, Mr. HAROLD R. HASTINGS, Professor ELMER T. MERRILL, Professor FRANK G. MOORE, Mr. CHARLES R. MOREY, Professor LEWIS B. PATON, Dr. A. S. PEASE, and the Editors, especially Professor MARQUAND and Dr. PEABODY.

No attempt is made to include in this number of the JOURNAL material published after January 1, 1907.

For an explanation of the abbreviations, see pp. 140, 141.

II, On the Evolution of Culture (1878); III-V, Primitive Warfare (1867-1869); VI, Early Modes of Navigation (1874). (Lt.-Gen. A. LANE-FOX PITT-RIVERS, *The Evolution of Culture and Other Essays*, edited by J. L. MYRES, with an Introduction by HENRY BALFOUR. Oxford, 1906, The Clarendon Press, xx, 232 pp.; 21 pls. 8vo. 7s. 6d.; \$2.50 net.)

The Origin of Spiral Decoration.—In *Z. Ethn.* XXXVIII, 1906, pp. 1-33 (76 figs.), A. G. WILKE discusses the origin and spread of the spiral maeander and similar systems of decoration. He argues that they developed from the shifting of concentric half-circles. Concentric circles are found in the late neolithic and early bronze ages in northern Europe, and the whole varied system of spiral decoration appears in southern Hungary, especially in Transylvania and Butmir. From this region it spread by trade to the north and west, and by invasion to the Aegean region. The true spiral developed from the spiral maeander. The angular decorations of the same character are also due to shifting of other geometric figures. This origin explains the appearance of the maeander and spiral as decorations among widely separated peoples.

Prehistoric Oriental Influence in Northern Europe.—In *Mitt. Anth. Ges.* XXXVI, 1906, pp. 57-91 (11 figs.), M. MUCH examines the evidence for Oriental influence in the arts and customs of northern Europe during the neolithic and early bronze ages, with special reference to the views of Sophus Müller, who holds that almost all the northern civilization is of Oriental origin. He concludes that this influence is as yet not proved, and that the growth of civilization in Europe shows an independent character, varying according to the natural features of the regions in which it developed.

The Origin of Mythological Monsters.—In *Z. Ethn.* XXXVIII, 1906, pp. 269-311 (26 figs.), H. BAB argues that mythological monsters owe their existence in great measure to abnormal or monstrous human births. This thesis is discussed at length with special reference to the phantastic creations of Asiatic mythology.

The Pumpelly Expedition of 1904.—In *Z. Ethn.* XXXVIII, 1906, pp. 385-390, H. SCHMIDT reports briefly the results of the Pumpelly Expedition to Turkestan in 1904. Excavations were conducted at two large mounds, near Anau. They showed long occupation in which four periods could be distinguished; three of the bronze, and one of the iron age. The last bronze age period seems to have reached its height about 1500 B.C. The fourth period seems to belong early in the first millennium B.C. Trial excavations were also made at old Merv.

The Names of the Letters of the Alphabet.—In *Eph. Sem. Ep.* II, 1906, pp. 125-139, M. LIDZBARSKI discusses the origin of the names of the letters of the Semitic alphabet, and comes to the conclusion that these names are of genuine Semitic origin and that the alphabet must have been invented by a Semitic people. It is possible, however, that it is based upon some foreign phonetic or acrophonetic system. This may have been one of the varieties that have lately been discovered in the eastern Mediterranean. It is impossible that the Greek alphabet was original, and that the Semitic was borrowed from it.

Aramaic Texts on Stone, Clay, and Papyrus.—In *Eph. Sem. Ep.* II, 1906, pp. 200-250, M. LIDZBARSKI summarizes the discoveries and publica-

tions of Aramaic texts from bilingual cuneiform inscriptions, Egyptian papyri, ostraka, and stone inscriptions from Egypt and various parts of Syria.

Himyaritic Inscriptions.—In *S. Bibl. Arch.* XXVIII, pp. 143-148 (pl.; fig.), D. H. MÜLLER discusses the Himyaritic inscriptions discovered by G. U. Yule and published *Ibid.* XXVII, 1905, pp. 153-155. He reviews previous discussions and translations, and gives a corrected edition of the text in transcription, a translation, and commentary.

South Arabian Temple Codes.—In *Or. Lit.* IX, 1906, cols. 256-262, 324-330, 395-398, H. GRIMME describes a number of Sabaeen inscriptions which contain regulations in regard to the entering of sacred precincts, the protection of consecrated property, and offerings of atonement in case of violation of sanctity. These texts are of peculiar interest on account of the light which they throw upon the ancient Semitic conception of holiness, and their parallels to the old Hebrew and other ancient religious conceptions.

The Friezes from Susa.—In *M. Soc. Ant. Fr.* LXV, 1904-1905, pp. 32-44, H. A. VASNIER criticises the restoration of the friezes from Susa in the Louvre. No mortar should appear between the joints of the face. The bricks are slightly wedge-shaped, in order that the mortar at the back may not interfere with the exact contact of the enamelled surfaces in front. This method of construction is found in Turkestan on the tomb of Timur, the work of Persian artists, and its employment in the Louvre would add much to the beauty of the reconstruction.

Notes on Old Persian Inscriptions.—In *J.A.O.S.* XXVIII, pp. 190-194, A. V. W. JACKSON publishes an important list of corrections of old Persian inscriptions, collated by him during a recent trip through Persia.

In *Or. Lit.* IX, 1906, cols. 481-488, A. HOFFMANN-KUTSCHKE discusses the text and interpretation of several passages in the Achaemenid inscriptions.

Parthian Coins with Beardless Faces.—In *Num. Chron.* 1906, pp. 221-231, H. H. HAWORTH reiterates, as against Mr. WROTH, his previous doubts about the accuracy of the classification of the coins with a beardless face on the obverse, generally placed at the head of the Parthian series, and repeats his suggestion that they may be attributed to the Arsacidan rulers of Armenia.

The Earliest History of Cyprus.—In *Mitt. Vorderas. Ges.* XI, 1906, pp. 1-78 (10 pl.), R. VON LICHTENBERG gathers information concerning Cyprus from the Egyptian and Assyrian inscriptions, the principal historic remains in the island itself, and the statements of Greek writers, and constructs from them a sketch of the earliest history of the island. He concludes that there was a homogeneous civilization in Cyprus, Troy, and Phrygia, whose roots are to be sought in the direction of Thrace, and which perhaps can be traced as far as southern Hungary. With this conclusion the ancient traditions agree which represent the Trojans and Phrygians as migrating from Thrace to Asia Minor. The earliest inhabitants of Cyprus are to be regarded as nearly related to these races. As early as the third millennium B.C. they came by land to the southern coast of Asia Minor, whence they were attracted to Cyprus by the fertility of the island.

Ancient Ships.—In *Jb. Arch. I.* XXI, 1906, pp. 107-115 (3 figs.), E. ASSMANN criticises rather unfavorably P. Gauckler's article on the ship mosaic discovered in 1896 at Althiburus (*C. R. Acad. Insc.* 1898) and

Schiff's discussion of the ship graffiti in Alexandrian tombs. The ignorant maker of the mosaic seems to have applied names to types of vessels quite at random; hence nothing can be safely inferred as to the meaning or even the correct form of the names used. Among the names that are clearly misapplied are *actuaria* and *schedia*. The large single vessel on the floor of another room of the same villa, marked APAEONA LIBURNI, is not a Liburnian type of vessel, but a ship called *Apaeona* or *Apafona*, probably a Phoenician name, which belonged to Liburnius, the owner of the house. The supposed discovery, in the Alexandrian sketches, of a lateen sail, is a mistake.

Survival of Pagan Cults in Thrace. — In *J.H.S.* XXVI, 1906, pp. 191-206 (9 figs.), R. M. DAWKINS gives an account, partly from personal observation, partly from an earlier native writer, of a village masquerading festival which is celebrated at Carnival time in the district of Viko, the ancient Thracian capital, between Constantinople and Adrianople. Some features are evidently survivals of the ancient spring festival of the Spirit of Vegetation, and are akin to the ceremonies of the Curetes and the Roman Salii, while others belong more directly to the cult of Dionysus. The little drama includes planting and sowing, animal disguises with a mock slaying and resurrection, phallic features, prophylactic bells, etc. Somewhat similar ceremonies in the island of Scyros, together with a resemblance of dialects, suggest that after the inhabitants of that island were removed to Corfu by the Venetians in the seventeenth century, it was repopulated from this part of Thrace.

The Shoe in Primitive Ceremonies. — At the May meeting of the Berlin Arch. Society, E. SAMTER spoke on the shoe in primitive marriage and funeral ceremonies, and traced the custom of throwing an old shoe after a newly married pair, or some one starting on a journey, to the wish to sacrifice a part of one's clothing to propitiate evil spirits, and to the placing of shoes in the grave for use on the journey of the soul. Marriage ceremonies were in origin a form of service to the dead. (*Arch. Anz.* 1906, cols. 194-195.)

The Origin of the Taurobolium. — The paper by C. H. MOORE, presented at the General Meeting of the Archaeological Institute in Boston (*A.J.A.* IX, 1905, p. 71), is published in full in *Harvard Studies in Classical Philology*, XVII, 1906, pp. 43-48.

Angariae. — The Persian postal system (*δγγαρίων*) is described by Herodotus, and in the fourth century A.D., *angarium* denotes the state transport of burdens, and *angariae* the animals and wagons pressed into this service. The period between Herodotus and Diocletian is studied in *Klio*, VI, 1906, pp. 249-258, by M. ROSTOWZEW, who shows that the custom of pressing animals and men into public service continued unbroken through Hellenistic and Roman times, and increased with the institution of the imperial fast post, until it was placed on a legal basis by the later emperors. The custom is best known in Judaea and Egypt. The verb used is regularly *δγγαρεύειν*.

Jugglers. — The feats of jugglers in ancient and mediaeval times, as shown on works of art or mentioned in literature, are discussed by A. WARREN in *Reliq.* XIII, 1907, pp. 1-16 (11 figs.). A list of representations of such feats is given in an appendix.

Horse Brasses.—The ornamental brasses used to decorate horses were originally amulets, and are still so regarded in some European countries. Their origin, use, and meaning are discussed, and 165 forms illustrated by LINA ECKENSTEIN in *Reliq.* XII, 1906, pp. 247-262 (13 figs.).

EGYPT

The Oldest Fixed Date in History.—In *Bibl. World*, XXVIII, 1906, pp. 108-112, J. H. BREASTED discusses the Egyptian calendar and the information that it gives in regard to the antiquity of Egyptian civilization. The Egyptian year consisted of 365 days, so that every four years the New Year was celebrated one day too soon. In the course of 1460 years New Year's day thus made a complete circuit of the year and came back to the day from which it had set out. This circuit is known as the Sothic period. The beginning of such a period is recorded 2780 B.C., and it is impossible to suppose, in view of the high culture of this age, that the calendar was first introduced at this time. Moreover, the year of 365 days is mentioned in Pyramid texts. We must go back, therefore, another 1460 years to 4241 B.C. to find the beginning of the Egyptian era.

Totemism in Egypt.—In a lecture at the Musée Guimet, V. LORET argued that the gods of the Egyptians were the totems of the different Egyptian clans before they were worshipped as gods. In spite of some difficulties, the theory has much to recommend it, and would certainly explain the worship of animals, which has formed one of the standing puzzles of Egyptian religion. (*Athen.* Sept. 15, 1906, p. 310.)

The Prehistoric Kings of Abydos.—In *J. Asiat.* VII, 1906, pp. 233-272, E. AMELINEAU reviews his former discussion of the historical character of the first kings of Abydos named in the Palermo stone, and shows how his conclusions have been confirmed by recently published Egyptian and Ethiopian records and by archaeological discoveries, which prove the persistence of the cults of these early Pharaohs down to a comparatively late time.

A Statuette of the Goddess Buto.—In *S. Bibl. Arch.* XXVIII, pp. 201-202 (pl.), V. SCHMIDT discusses the pedestal of an Egyptian statuette in the Civic Museum at Mantua, which bears an inscription, stating that it was erected by Rameses II, in honor of the goddess Buto.

The Title "Father of the God."—In *Sitzb. Sächs. Ges.* 1905, pp. 254-270, L. BORCHARDT finds that the title "Father of the God" designates the king's father-in-law, during the Old and Middle Kingdoms. In the New Empire the title has the same meaning, and in later times it designates the king's father. Since the service of the gods imitated that of the kings, the same title designates the "father-in-law" of a god.

The Stele of the Excommunication.—The stele of the excommunication from Napata is translated and discussed in *Klio*, VI, 1906, pp. 287-296 (fig.), by H. SCHÄFER, who argues, against Maspero, that it is a royal decree excluding all members of a certain family from the temple of Amon at Napata, because some of them had planned a murder in the temple, for which crime they had been burned to death. The edict closes with a curse upon all prophets and priests who do evil in the temples. The Nubian king's name has been erased, but the language indicates a date not later than the end of the seventh century B.C.

The Arrival of the Statue by Bryaxis at Alexandria.—In *R. Arch.* VIII, 1906, pp. 322 f., is a summary by G. DATTARI of a paper presented by him at the Antiquarian and Numismatic Society of Montreal, in which, on the evidence of coins, he fixes the date at which the statue of Serapis, by Bryaxis, reached Alexandria in 214–213 B.C.

Two Statuettes of Serapis.—In *Ath. Mitt.* XXXI, 1906, pp. 55–59 (2 pls.; fig.), F. W. VON BISSING publishes two statuettes of Serapis from Cairo in his collection. One is a limestone figure (height 0.19 m.), of good workmanship, and clearly a copy of a statue, which can scarcely be other than the work of Bryaxis. The other figure is of bronze, and also repeats the motive of the great statue, but emphasizes the drawing back of the left leg and extension of the right.

Ancient Dice.—In *B. Soc. Ant. Fr.* 1906, pp. 158–159, E. MICHON describes two steatite dice from Egypt. One is a regular icosahedron, having a letter of the Greek alphabet, from A to Y, on each face. The other is a dodecahedron, having the first twelve Greek numerals on its faces.

Two Bronze Portraits from Egypt.—There is in the British Museum a pair of statuettes representing a male and a female figure, in the guise of Olympian deities but with portrait faces and certain attributes which belong to Ptolemy Philadelphus and Arsinoë II. The figures, which measure a few inches over a foot in height, are wholly Greek in conception and workmanship, although from Egypt. They are interesting as giving an idea of the appearance of statues of the θεοὶ ἀδελφοί. (C. C. EDGAR, *J.H.S.* XXVI, 1906, pp. 281–282; pl.)

Public Works under Ptolemy Philadelphus.—In *C. R. Acad. Insc.* 1906, pp. 433–441, P. JOUGUET and J. LESQUIER publish a papyrus fragment relating to works of irrigation undertaken in the twenty-seventh year of Ptolemy Philadelphus (259 B.C.). It contains a plan of the proposed canals, with specifications as to dimensions, and estimates of the cost, varying according to the season when the work is carried on. The fragment shows that the *naubion* was at this time a cube, measuring two royal cubits on each side and therefore equal to the *aiolion*.

"Chiselled" Coins.—Dr. EDDÉ, in *B. Num.* XIII, 1906, pp. 7–9, argues, on the basis of a small hoard of coins acquired by him in Egypt, in behalf of the theory examined and rejected by Babelon (*Traité*, I, pp. 644 f.), that the coins gouged by a chisel were thus cut by the casual possessors in order to determine whether they were of the proper metal throughout, or were merely plated.

Roman and Egyptian Legal Formulae.—The relation of the written instructions given by the magistrate in Roman Egypt to a subordinate (*iudex pedaneus*) to the *formulae* used in similar cases in Roman law has been studied by L. BOULARD. He considers the scope and optional characters of these instructions, and reaches the conclusion that they do not agree with the *formulae* in essential points, and that their origin is to be sought in the Egyptian procedure under the Ptolemies, and not in the Roman law. (LOUIS BOULARD, *Les Instructions écrites du Magistrat au Juge-commissaire dans l'Égypte Romaine*, Paris, 1906, E. Leroux. Pp. viii, 127. 8vo.)

BABYLONIA AND ASSYRIA

A Babylonian Map of the World.—In *Exp. Times*, XVIII, 1905, pp. 68-73, A. H. SAYCE describes a map which is at least as old as the Hammurabi period and probably a good deal older. It is published in *Cuneiform Texts*, Vol. XXII, and represents the world as a disk surrounded by the ocean which is named the "Salt River." On the map the location of a number of cities of Babylonia and of Assyria, and the Euphrates and the Persian Gulf are clearly shown. The text is of interest for the interpretation of the Gilgamesh epic and for the Hebrew conception of the garden of Eden. See also *Am. Ant.* XXVIII, 1906, pp. 334-338 (fig.).

Date and Place of the Code of Hammurabi.—In *J.A.O.S.* XXVIII, pp. 123-134, D. G. LYON inquires into the year when and the place where the Code of Hammurabi was first promulgated. The text discovered in Elam could not have been written before the thirtieth or thirty-first year of his reign, but the promulgation of the code is older. The prologue suggests that the code was published at the beginning of the king's reign, and a chronological table which gives the name of his second year as the year in which righteousness was established, would suggest that this was the year in which the code was promulgated. As to the place, the author maintains that a correct interpretation of the text shows that it was erected in Babylon and not in Sippar.

Did the Babylonian Temples have Libraries?—In *J.A.O.S.* XXVIII, pp. 146-189, M. JASTROW, Jr., discusses the question of the existence of Babylonian temple libraries. Three important mounds have thus far been pretty thoroughly explored; namely, Telloh, Abu Habba, and Nippur; and a fourth site, Babylon, has been under investigation since 1899. In none of these mounds has anything that can properly be called a temple library been discovered. All that has been found in connection with the temple has been either records connected with the temple administration, or business documents of a private character, stored there for safety, or tablets for use in the temple schools. Among the latter, mythological and ritual texts, which served as writing exercises for the children, have occasionally been discovered, but nothing which indicates the preservation of literature in the narrower sense. The Babylonian temples were halls of record rather than libraries, and the only library which has yet been discovered is that found in the palace of Assurbanipal at Nineveh.

The Participation of the Babylonians in the Destruction of Nineveh.—In *Or. Lit.* IX, 1906, cols. 444-447, B. MEISSNER calls attention to passages in the recently published *Cuneiform Texts in the British Museum*, XXII, which favor the view that the Babylonians shared with the Medes in the destruction of the Assyrian empire, in spite of the assertion of Nabonidus, that they had not destroyed the sanctuaries of the Assyrian gods.

Babylonian War Gods.—In *S. Bibl. Arch.* XXVIII, pp. 203-218, T. G. PINCHES discusses the names and attributes of Nergal and of the gods who are equated with Ninib, or, as the author thinks it should be read, Nirig, in the so-called monotheistic cuneiform tablet. He appends also a transcription and translation of two hymns to Nergal from the city of Cutha.

The Etana Myth in Babylonian Art. — In *Or. Lit.* IX, 1906, cols. 431-432, 477-481 (fig.), A. HERMANN describes and discusses a number of Babylonian representations of the myth of Etana and the eagle.

A Chaldaean Dragon. — Among the German discoveries at Babylon is a curious monster with a serpent's head, which was represented on the enamelled bricks of the walls of Nebuchadnezzar. The type is much older, occurring on a stone vase and on a seal of Gudea, discovered by de Sarzec. This early dragon was sacred to the Chaldaean god, Nin-ghis-zida, and the type can be traced through various transformations to the Babylonian period, when the sacred dragons form a pair of fantastic creatures, dedicated to Marduk and Nebo. (L. HEUZEY, *C. R. Acad. Insc.* 1906, p. 540.)

The Technique of Cuneiform Writing on Clay. — In *Or. Lit.* IX, 1906, cols. 304-312, 372-380 (5 figs.), L. MESSERSCHMIDT makes a careful study of the way in which cuneiform writing on clay was produced. He comes to the conclusion that the writing instrument was a stylus made of a segment of bamboo reed formed by two cuts, one passing through the centre of the reed, the other tangential to the inner circumference. By this means an instrument was produced by which all the lines, curves, and angles that are found in cuneiform inscriptions could be executed.

A Sumerian Incantation. — In the *Recueil de Travaux*, V. BRUMMER publishes a unique incantation tablet in Sumerian, which he thinks may be as old as 3500 B.C. It confirms the view that the spells in Assurbanipal's library were copied from much earlier documents. The article also discusses the importance of the temple of Ea at Eridu as the chief holy place of the Sumerian religion. (*Athen.* Sept. 15, 1906, p. 309.)

The Chedorlaomer Tablets. — In *S. Bild. Arch.* XXVIII, pp. 193-200, A. H. SAYCE subjects the famous tablets published by Pinches in 1895, to a detailed examination, and concludes that Pinches was correct in reading the name written 'KU-KU-KU-MAR or KU-KU-KU-KU-MAR as Ku-dur-lakh-kha-mar. He brings fresh evidence to establish the correctness of this reading, and gives a new transcription and translation of the first thirty-four lines of the tablet.

Documents from the Time of the First Dynasty of Babylon. — In the *Publications of the Babylonian Expedition of the University of Pennsylvania*, Series A, Vol. VI, Part I, H. RANKE publishes a collection of 119 tablets belonging to the period of the first dynasty of Babylon. These tablets come for the most part from Sippar, a few perhaps from Babylon. All the tablets which belong to the reigns preceding that of Hammurabi, that are found in the University of Pennsylvania collections, are given in full. From the time of Hammurabi onward only specimens of the more interesting tablets are given. All the rulers of the first dynasty of Babylon except Sumuabum are represented. The tablets consist of contracts concerning the purchase of slaves, exchange of houses, hiring of servants, lease of fields, loans, donations, and divisions of inheritances, also decisions of the courts in contested cases, memoranda, lists, etc. The proper names of the period show that two races were living side by side in Babylon at this time, one the old Babylonians who were amalgamated with the Sumerians, the other the new Babylonians, or Amorites, to which the ruling dynasty belonged. The fact that names were compounded with that of the goddess Lagamal is interesting because of its bearing on the Chedorlaomer controversy. The texts are

published in seventy-one plates of autography and thirteen plates of photographs. The volume is provided with complete indices of all the proper names, and a list of the signs that were in use during this period.

Seal Inscriptions on an Early Babylonian Contract.—In *J.A.O.S.* XXVIII, pp. 133-141 (3 pls.; 2 figs.), D. G. LYON describes a "case" tablet in the Harvard Semitic Museum, containing an unusual number of interesting seal inscriptions, and shows the importance that such seal tablets as these have for the dating of seals whose origin is otherwise unknown.

A Babylonian Adoption Contract.—In *Or. Lit.* IX, 1906, cols. 534-538, A. UNGNAD translates and comments upon a tablet of the Kassite period, Vol. XIV, No. 40, of the University of Pennsylvania texts. A certain woman adopts a daughter upon payment of seven shekels of gold with the stipulation that the latter shall care for her during her life, and after her death shall make libations of water for the repose of her soul. A breach of the contract exposes the mother to pecuniary loss; the daughter, to degradation to the condition of a slave.

Documents of the Kassite Period.—In the *Publications of the Babylonian Expedition of the University of Pennsylvania*, Series A, Vols. XIV-XV, A. T. CLAY publishes a collection of tablets bearing (1) complete dates, and (2) incomplete dates, from the period of the Kassite dynasty of Babylon. Nearly all of these tablets were discovered in the second expedition to Nippur under the directorship of J. P. Peters. The documents are contracts, deeds, and similar business records and belong to the reign of every one of the Kassite rulers except Kadashman-Burish. The tablets allow us to reach some conclusions in regard to the length of the reigns of successive monarchs, and these are hard to bring into accord with the famous Babylonian list of kings. The proper names found in the tablets are important for the history of migrations into Babylonia. They exhibit three main types, the old Babylonian, the Amorite, and the Kassite. Most interesting, perhaps, are a number of names compounded with Ya-a-u, which has been supposed to be Yahweh, God of the Hebrews. For instance, Ya-u-bani is formed like Ea-bani, and Ya-u-a seems to be the same as Jehu. There is also a goddess Yautum, corresponding with the masculine divinity. The work is provided with translations of specimens of the different classes of tablets, and with an elaborate index of names of persons, places, and deities. A list of signs that occur in the text is also given, transcriptions of 168 tablets in 72 plates, and photographic reproductions of these same tablets in 15 plates. See also *Rec. Past*, V, 1906, pp. 213-224 (14 figs.).

The "Koudourrou."—In *C. R. Acad. Insc.* 1906, pp. 308-319, É. CUCQ discusses a class of Chaldean monuments, the *Koudourrous*, containing records of the ownership of land, with an exact indication of the boundaries. Their principal object is to place the property under the protection of the gods, and they are marked by two characteristic features,—reliefs containing the emblems of divinities, and a series of imprecations against those who may dispute the ownership or shift the boundaries of the piece of land. The form of the documents indicates a time when the authority of the law was insufficient to protect the owner. The series recently brought to the Louvre from Susa belongs to the Kassite period (1330-1117 B.C.), and refers to lands bought by the king from a tribe or city, and bestowed by him on some individual. The documents throw much light on the nature of landed

property, and on the decadence of civilization in the Kassite period, as contrasted with the time of Naram-Sin or Hammurabi.

Mitanni Names from Nippur.—In *Or. Lit.* IX, 1906, cols. 588-591, F. BORK discusses a number of proper names in the documents recently published by Clay for the University of Pennsylvania. These are compounded with Teshup and Tarku, which are well-known names of divinities of the land of Mitanni. Another name, A-ga-ab-ta-ha, is mentioned in an Elamitic inscription as that of a refugee from the land of Mitanni. The collection of proper names that can be made from these documents throws not a little light upon the language and commercial relations of the Mitanni people.

An Assyrian Grammatical Treatise.—In *J.A.O.S.* XXVII, 1906, pp. 88-103, S. LANGDON discusses a tablet, published in the second volume of Rawlinson's *Inscriptions*, which has hitherto been supposed to be a list of synonyms, but which he maintains is a chronological treatise based upon an omen tablet as a specimen. The text is published in full with transcription and translation.

Assyrian Incantations against Ghosts.—In *S. Bibl. Arch.* XXVIII, pp. 219-227, R. C. THOMPSON publishes a transliteration and translation of a remarkable tablet published in *Cuneiform Texts*, Vol. XXIII. The contents are largely new, and describe the Assyrian method of laying a ghost.

Meaning of the Names of the Rulers of Shirgulla.—In *Or. Lit.* IX, 1906, cols. 312-315, 380-385, V. BRUMMER discusses the names of the earliest rulers of the Babylonian kingdom of Shirgulla (Shirpurla). He starts with the name Akurgal, which means "son of the great mountain," and maintains that this must be a title of a deity, and that the king's name is an abbreviation due to the omission of servant or son before the name of the god. On this basis he attempts to explain the names of the remaining rulers of this dynasty as similar *hypokoristika*.

The Babylonian Chronicle.—In *Abh. Sächs. Ges.* XXV, No. 1 (46 pp.), F. DELITZSCH republishes in transcription and translation the *Babylonian Chronicle* of 745-688 B.C. with commentary. An appendix (pp. 41-46) contains the *Synchronistic History P.* in transcription, with notes.

Babylonian Astrology in Late Jewish Tradition.—In *Or. Luz.* II, 1906, pp. 113-168, A. WÜNSCHE maintains that numerous traces of Babylonian cosmology and astrology are to be found in the Talmud, the midrashes, and the cabalistic writings. As an illustration of this he takes the descriptions of Solomon's throne and hippodrome in the different recensions of the Agada. The numerous animal forms which stand upon the steps of the throne are not the creations of Jewish fancy, but Babylonian astrological figures. The throne itself represents the Babylonian conception of the sky, and the hippodrome represents the Babylonian myth of the course of the seasons.

SYRIA AND PALESTINE

The Old Hebrew Calendar.—In *Z. Morgenl. Ges.* LX, 1906, pp. 605-644, E. KÖNIG gives a thorough discussion of all the material bearing on the nature of the old Hebrew calendar, and comes to the conclusion that in the earliest times the day began with the dawn and that the custom of beginning the day with the evening is found only in later strata of Old Testa-

ment literature. The change cannot be attributed to Babylonian influence, since, according to Pliny, the Babylonians began the day with sunrise. It is due rather to observation of the moon for the purpose of determining the beginning of feasts. The new moon can be observed only in the evening, and hence arose a tendency to begin the day when the new moon first appeared. The months were known originally by the Canaanitish names Abib, Ziw, Ethanim, Bul, etc. Not until after the Exile did the Babylonian names Nisan, Iyyar, etc., appear. This was due to direct borrowing from the Babylonians. The method of numbering the months instead of naming them is found in all periods. The month was originally a lunar one, but the year was solar, so that the insertion of an occasional intercalary month was necessary. The year originally began in the autumn. The beginning of the year in the spring with the month Nisan cannot be traced before 600 B.C., and is probably due to Babylonian influence.

Origin of the Hebrew Alphabet.—In *Am. Ant.* XXVIII, 1906, pp. 329-334, H. PROCTOR argues that the Hebrew square characters were derived directly from hieroglyphics, and not from the Phoenician, and that they probably formed from the earliest times a sacred system of writing.

Palestine before the Hebrew Conquest.—In *Bibl. World*, XXVIII, 1906, pp. 360-373 (3 figs.), G. A. BARTON summarizes the results of the latest archaeological discoveries for the history and civilization of Palestine before the arrival of the Hebrews. He accepts the views that the aborigines of the country were non-Semitic, that the earliest Semitic immigrants were the Amorites, and that the Canaanites were a second wave of Semitic migration, contemporaneous with the Kassite conquest of Babylonia and the Hyksos conquest of Egypt.

Topography of Jerusalem.—In *Pal. Ex. Fund.* XXXVIII, pp. 206-212, 278-286, J. C. NEVIN discusses the location of the Aera, Millo, the King's Gardens, the Rock Zoheleth, Silla, Gihon, the King's Pool, Enrogel, the Lower Pool, the Upper Pool, the Broad Wall, the Furnace Tower, and other points in the topography of Jerusalem.

The Location of Golgotha.—In *Pal. Ex. Fund.* Vol. XXXVIII, 1906, pp. 269-274, A. W. CROWLEY-BOEVEY discusses C. Wilson's 'Notes on Golgotha and the Holy Sepulchre' in the preceding volume, with a result unfavorable to the genuineness of the traditional location of the Holy Sepulchre.

The Meaning of the Expression "Between the Two Walls."—In *J. Bibl. Lit.* XXV, 1906, L. B. PATON discusses the location of the two walls mentioned in Jer. xxxix, 2-5; lxii, 5-8; 2 Kings xxv, 2-5; Isa. xxii, 9-11, and holds that they can only have been the walls on either side of the mouth of the Tyropeon Valley, near the pool of Siloam; that is, the west wall on the east hill and the east wall on the west hill. The use of this expression as early as Isa. xxii, 9-11 shows that the second wall on the south, which enclosed the southern end of the western hill and joined it to the eastern hill, was in existence as early as the time of Hezekiah, and suggests that it was the wall mentioned in 2 Chron. xxxii, 5, and that it was built by Hezekiah.

The Siloam Tunnel.—In *Bibl. World*, XXVII, 1906, pp. 467-472, T. F. WRIGHT gives a history of the exploration of the Siloam Tunnel at Jerusalem, and compares the methods used by the constructors of this tunnel with those employed by the engineers of the Simplon.

Weights found in Jerusalem.—In *Pal. Ex. Fund.*, XXXVIII, 1906, pp. 182–189, 259–267, C. WARREN discusses a number of weights found in Jerusalem, and after a general review of ancient weights and measures, reaches the conclusion that the old Troy grain, which was one per cent heavier than the present Troy grain, was a general unit of weight throughout the ancient world, and that these Jerusalem weights, as well as various Babylonian and Egyptian weights, are multiples of this standard.

Notes on Semitic Inscriptions.—In *Eph. Sem. Ep.* II, 1906, pp. 140–149, M. LIDZBARSKI discusses all the seals and weights with Semitic inscriptions discovered within the last two years, including the seal of Shema, the servant of Jeroboam, from Tell el-Mutesellim, that of Joshua, the son of Asayahu (*J.A.O.S.* XXIV, 1903, pp. 205–226), and that of Hanan, son of Yedayahu (*Mitt. Pal.* V, 1903, p. 30). *Ibid.* pp. 150–152, the same writer reviews recent discussions of the genuineness of the Mesha Inscription, and concludes that there is no sound reason for doubting its authenticity. *Ibid.* pp. 153–171, the same writer publishes and discusses all the Phoenician inscriptions which have been discovered during the last three years. *Ibid.* pp. 190–199, he discusses the date of the Siloam inscription, and concludes from a comparison with the earliest gems that it cannot be brought down to post-exilic times, but belongs to the first period of Hebrew epigraphy. He also describes the inscriptions on ossuaries found at Jerusalem and Gaza during the past three years. *Ibid.* pp. 251–316, he reports the Nabataean and Palmyrene inscriptions discovered or published within the past three years.

Some Aramaean Inscriptions.—In *J. Asiat.* VII, 1906, pp. 281–304, (1 pl.), J. B. CHABOT discusses a number of recently published Aramaic inscriptions. The first is a mosaic at Edessa with a Syriac inscription, naming Aftoha the son of Garmo. The second is an inscription published in *Z. Morgent. Ges.* XIV, as old Indian. A new examination of the squeeze preserved in the Louvre shows that this is a Syriac inscription from Sinai. There are also Palmyrene sepulchral inscriptions from the collection of Mr. Jacobsen at Copenhagen.

Notes on Some Phoenician Inscriptions.—In *Z. Morgent. Ges.* LX, 1906, pp. 165–168, F. PRAETORIUS discusses expressions in the Marseilles Inscription, the Inscription of Eshmunazar and the inscription, *C.I.S.* I, pp. 29 ff.

Palmyrene Inscriptions.—In *R. Arch.* VIII, 1906, pp. 253–267, CH. CLERMONT-GANNEAU discusses ten Palmyrene epitaphs published by Chabot (*J. Asiat.* 1906, I, pp. 293–304) and publishes (2 figs.) two inscribed reliefs representing, one a woman, the other a man. Both were in the collection of the Countess de Béarn, and the first is now the property of Mr. A. Dutens. A reading of the epitaphs is given. A translation (in pious memory to him whose name is blessed for eternity, the good and the pitiful! Invoking the holy god, X son of Y, and Z son of . . .) of the inscription discussed by the same writer (*Recueil d'Arch. Orient.* VII, p. 36, No. 11) and others is given.

The Inscription of Namāra.—In *Or. Lit.* IX, 1906, cols. 573–584, M. HARTMANN discusses the inscription published by Dussaud in *R. Arch.* 1902, pp. 409–421 (see *A.J.A.* VII, p. 235). This inscription states that the building on which it stands is the mausoleum of the king of all the Arabs, Maralqais Ibn 'Amr, and mentions the day of his death, the 7th of Kislul 223; that is, the 7th of December, 328 A.D.

The Temple of Bel at Palmyra.—The plan and architecture of the temple of Bel or Helios at Palmyra were discussed by O. PUCHSTEIN at the May meeting of the Berlin Arch. Society. The great court was surrounded by colonnades, double on three sides, and single but higher on the fourth. The temple proper was Corinthian, with the entrance at the west end. The cella had windows and an adyton at either end. The style points to the time of Augustus or Tiberius, and to a Greek or Greco-Roman architect, who sought a perspective effect in the decorative reliefs. (*Arch. Anz.* 1906, cols. 193-194.)

Meaning of Baal in Sabaeen.—In *Or. Lit.* IX, 1906, cols. 251-256, H. WINCKLER defends the view that Baal in Sabaeen denotes an inhabitant of a place, not a deity of that place.

The Dating of Samaritan Manuscripts.—In *J. Bibl. Lit.* XXV, pp. 29-48 (2 pls.), R. GOTTHEIL discusses the date of a Samaritan Hebrew text of the Pentateuch that was recently offered for sale in New York. It is claimed to be the oldest dated Hebrew codex in existence and to belong to the year 734 A.D. The author maintains that it is some 785 years younger than has been supposed, and in support of this gives an elaborate discussion of the way in which Samaritan manuscripts are dated.

A Portrait of Antiochus VII.—In *Le Musée*, III, 1906, pp. 75-78 (pl.), A. SAMBON publishes a silver "emblem" on which is a head wearing the Phrygian cap, while behind the shoulders appear the horns of the crescent. From a comparison with the coins of Antiochus VII of Syria, he concludes that it is a portrait of that king with the attributes of the god Men, and a fine example of Syrian art in the second century B.C.

A Weight from Seleucia.—In *B. Soc. Ant. Fr.* 1906, pp. 193-198, E. MICHON publishes a double mina of Seleucia recently acquired by the Louvre. It is a square lead plate with the figure of an elephant in relief, and weighs 1143 grammes. It bears the inscription ΣΕΛΕΥΚΕΙΟΝ | ΔΙΜΝΟΥΝ | ΕΤΙΔΕΛΦΙΩΝΟΣ (the agoranomos) and also the numerals ΚΡ, i.e. 126 of the Seleucid era (186 B.C.).

The Architecture of Baalbek.—Architectural members from Baalbek have been brought to Berlin, sufficient to show the details of the architecture and ornament as well as the technical structure of the various temples and colonnades of Heliopolis. Baalbek represents the Syrian type of Roman architecture under the Emperors, and shows an astonishingly rich and beautiful variety of decoration. The buildings represented are as follows: I. The small round building over a water basin at some distance from the town, erected in the first century A.D. It has column bases of an elaborate floral design—an ancient Oriental idea worked out in the Hellenistic spirit—spiral-fluted shafts and classical Corinthian capitals. II. The colossal temple of Heliopolitan Zeus. The frieze here consists of consols decorated by the fore parts of bulls and lions alternately, and connected by garlands in relief. Traces of color are found. The acanthus and palmettes on the sima and elsewhere are very free in design, with lilies on branching stems. Certain differences of style in the decorative members point to an alteration of taste during the extended time occupied by the building. III. The two courts in front of the temple, begun in the latter half of the second century and finished under Caracalla. They show the later tendency to striking and picturesque ornament, and a beautiful polychromy of

material in the monolithic shafts of polished pink granite contrasting with the pure white limestone, now golden with age. A column base from one of these halls, as well as a bit of the podium of the stage wall of the theatre, shows that round members were first cut in plane surfaces with the forms of the mouldings indicated at an edge, to be worked out after the stones were in place. IV. From the temple of Bacchus there is only a piece of an abacus, which has a figure of Pan in place of the usual acanthus flower, and from the round building in late Roman style, only small fragments. The only representation of the Heliopolitan Zeus, a cippus found in the round fountain house, remains at Baalbek, but three small reliefs of the Heliopolitan Triad are in Berlin. A characteristic type of monument, with a baldaquin supported on four columns over a statue, is represented by parts taken from a grave monument and a fountain. There are smaller articles of terra-cotta, glass, faience, and mosaic, of Arabic origin. (O. PUCHSTEIN, *Arch. Anz.* 1906, cols. 225-240; 2 figs.)

The Fortress of Masada.—The fortress of Masada, built by Herod the Great, and the last stronghold held by the Jews after the destruction of Jerusalem, is briefly described by F. B. WRIGHT in *Rec. Past*, V, 1906, pp. 368-372 (4 figs.).

The Rock Sculptures of Kab Elias.—The rock sculptures near Kab Elias (*Sunday School Times*, 1902, p. 546; cf. *A.J.A.* VII, 1903, pp. 107, 366) are discussed by S. RONZÉVALLE, in *Mél. Fac. Or.* I, 1906, pp. 223-238 (2 pls.). The first relief represents only a bull, near whose head in three niches are badly mutilated reliefs of divinities, apparently a local triad similar to that of Heliopolis. It seems to belong to Roman times. The second relief is much earlier, and represents an eagle-headed man, wearing a long garment and holding a sceptre. The style suggests Babylonian origin, but no exact parallel can be cited.

ASIA MINOR

Hittite Inscriptions.—In *S. Bibl. Arch.* XXVIII, pp. 133-137 (3 figs.), A. H. SAYCE proposes several emendations of the Ardistama and Ivriz inscriptions published by him in Vol. XXVII; and describes, with a tentative translation, some Hittite seals in the Ashmolean Museum.

The Ancient Harbor of Chalcedon.—The remains of the ancient moles at Chalcedon were traced in 1882, and show that the *κλειστός λιμήν* (Appian, *Bell. Mith.* 71, p. 380) was formed by a long mole extending toward the northwest, and a shorter mole running northeast from the point near the English cemetery. (I. MILIOPOULOS, *Ath. Mitt.* XXXI, 1906, pp. 53-54; fig.)

The Lion-Group from Cyzicus.—In *B.S.A.* XI, 1904-05, pp. 151-152, F. W. HASLUCK suggests that the relief from Cyzicus representing two lions standing over two bulls (*B.S.A.* VIII, p. 192; see *A.J.A.* VIII, p. 101) may have formed part of the decoration on the base of a throne for a statue of Cybele. Several possible restorations of the statue as standing or seated are suggested.

Ancient Sinope.—The articles on the history of Ancient Sinope, its inscriptions, and Prosopographia by D. M. ROBINSON (*American Journal of Philology*, XXVII, pp. 125-153, 245-279; *A.J.A.* IX, 1905, pp. 294-233)

have been bound in one volume, with title-page and corrigenda. (DAVID M. ROBINSON, *Ancient Sinope*. An historical account with a Prosopographia Sinopensis, and an Appendix of Inscriptions. Baltimore, 1906, The Johns Hopkins Press. 8vo. \$1.00.)

Votive Reliefs in the Louvre.—In *R. Ét. Anc.* VIII, 1906, pp. 181-190 (2 pls.), É. MICHON discusses some reliefs from Asia Minor, illustrating the syncretism prevalent among the partially Hellenized natives. From Philadelphia is a dedication to *Μαρυγή*, seemingly a local form of the *πότνια θηρῶν*. A dedication from Acmonia mentions Artemis *Ἀστελεανή*, apparently referring to the nature goddess, commonly called Anaitis. A more comprehensive syncretism appears on a stele from Ouchak in Phrygia, representing Cybele, with Hermes and a draped figure on either side. Above is a mounted warrior, with an eagle and Victory in front, and a winged genius behind. *Ibid.* pp. 281-283, F. CUMONT interprets the relief from Ouchak as showing the *Μητήρ θεῶν*, as the goddess of the earth, while above rides through the heavens *Μῆν Οὐράνιος*. Hermes frequently appears on Oriental monuments as an intermediary between earth and heaven.

A Decree of Outlawry from Miletus.—In *C. R. Acad. Insc.* 1906, pp. 511-523, G. GLOTZ studies in detail an inscription from Miletus (*Sitzb. Berl. Akad.* 1906, pp. 252 ff.; *Arch. Anz.* 1906, p. 17). The nature of the penalties shows that the crime for which Nympharetus, Stratonax, and their sons were proscribed was political, though by a legal fiction it is classed as murder. A comparison with Nicolaus of Damascus, Frag. 54, which refers to a banishment of the Neleidae in the sixth century, leads to the conclusion that this decree of the fifth century was engraved on the lower part of the stele on which the earlier decree had been inscribed, and that it refers to a second banishment of the family, probably about 449 B.C., as a result of oligarchical disturbances.

Inscription from Rhodes.—In *Jh. Oest. Arch. I.* IX, 1906, Beiblatt, pp. 85-88, F. HILLER VON GAERTRINGEN discusses a Rhodian inscription in the Evangelical School at Smyrna. It refers to honors bestowed by τὸ κοινὸν τὸ Ἐπρωϊστῶν ΑΥΤΩΝ. The last word is explained as a stone-cutter's error for *αὐτονόμων*, which is found as an epithet of Rhodian *Ἐπρωϊσταί* in *I.G.* XII, 1, 101; *S.G.D.I.* 3829.

The Edict of the Emperor Valens.—Schulten's interpretation of the edict of Valens addressed to Eutropius (see *A.J.A.* X, p. 443) is discussed by R. HEBERDEY in *Jh. Oest. Arch. I.* IX, 1906, pp. 182-192. He argues that about 365 A.D. Valens had allotted to certain cities of the province of Asia through the *actores rei privatae* portions of the income of the *fundi rei publicae* for rebuilding their walls. Irregularities crept in and the governor, Eutropius, asked that the cities be placed in control of the funds. This was first tried at Ephesus, and by the new edict the division of the funds and the *res privatae* are intrusted to the governor.

GREECE

ARCHITECTURE

Cretan Palaces and Aegean Civilization.—In *B.S.A.* XI, 1904-05, pp. 181-223 (3 pls.; 4 figs.), D. MACKENZIE publishes the first of a series

of articles in criticism of Dörpfeld's theory of Achæan palaces in Crete (*Ath. Mitt.* XXX, pp. 257-296; see *A.J.A.* X, p. 188). He argues from a close analysis of the remains at Phaestus and Cnossus, that no Achæan megaron ever existed at the former place, and that at the latter Dörpfeld's view of the stratification is wholly erroneous. The architecture of the palaces is homogeneous in style and the only changes are due to development. The first invaders from the mainland, Mycenæans, *i.e.* Pelasgians, of the same stock as the Cretans, destroyed the palaces at Cnossus and Phaestus, but the Achæans did not arrive till long after both palaces were in ruins, near the end of Late Minoan III, and form a mere prelude to Hellenic invasions in general. All evidence as to Achæan settlement in the Aegean is of too late a character to assist Dörpfeld's theory as to Achæan builders of the later palaces in Crete.

Ionic Terra-cotta Friezes.—At the July meeting of the Berlin Arch. Soc., L. KJELLBERG spoke on the terra-cotta friezes, eight in number, discovered at Aeolic Larissa, near Smyrna, and compared them with terra-cotta architectural members in Sicilian and Italian buildings. Those of Larissa include, beside purely ornamental designs, also figure scenes, for which there is no counterpart in this material in western Greek art. They represent races, a combat of centaurs, and a symposium, and, as excellent examples of Ionic art at about 500 B.C., furnish a basis for comparison of the genuine work with the Etruscan imitations. (*Arch. Anz.* 1906, col. 265.)

In *Röm. Mitt.* XXI, 1906, pp. 64-82 (pl.; 6 figs.), L. SAVIGNONI compares certain Ionic fragments from Palaikastro in Crete with similar specimens in Etruria and elsewhere. These fragments belonged to a terra-cotta frieze with reliefs of warriors and chariots. Savignoni's study is largely devoted to the form and use of the frieze placed above the cornice, as on the "Sarcophagus of the mourners" from Sidon. The subsequent history of this Ionic feature, rare in Ionia itself, is traced in the attica of the Roman triumphal arch.

The Date of the Temple of Athena Nike at Athens.—An examination of the north wall of the bastion of the temple of Athena Nike, which is as a whole an integral part of the Cimonian wall of the Acropolis, has disclosed the fact that it originally made a right angle with the west front. Thus restored, the lines of the bastion all run either parallel with or at right angles to the numerous old walls which are found about and under the Propylaea and which belong to the time of Cimon. After the Propylaea of Mnesicles was started, the north wall of the bastion was moved to correspond, and later the small stairway leading to the terrace above was constructed, the temple was built, the balustrade around the terrace was erected, and the ground level lowered. The decree of 450 B.C., directing that a temple and altar be erected in the precinct of Athena Nike, was the work of the party opposed to Pericles, for such an erection was inconsistent with the plans for the new Propylaea of Mnesicles. For a time Pericles and his party were strong enough to go on with their work as planned; but when their influence waned, the demand for the use of the precinct compelled the curtailing of the south wing of the Propylaea, and the temple was at last built. Although this was just before the Peloponnesian War, the design of the temple in many ways betrays its earlier origin. (*A. KÖSTER, Jb. Arch. I.* XXI, 1906, pp. 129-147; 5 figs.)

The Corinthian Capital at Phigalia.—In *Jh. Oest. Arch. I.* IX, 1906, pp. 287–294 (7 figs.), J. DURM discusses the lost Corinthian capital from the temple at Phigalia. The unpublished journal of Haller von Hallerstein shows that Cockerell's drawing is trustworthy. Similar capitals with a double row of acanthus leaves have been found at Delphi, and an architectural connection between the temple at Phigalia and the Tholos in the Marmoria seems probable.

The Temples represented on Certain Reliefs of Apollo Citharæus.—Four replicas of a relief of Apollo with the lyre, about to offer a libation as a victor, are discussed by F. STUDNICZKA in *Jb. Arch. I.* XXI, 1906, pp. 77–89 (5 figs.), with reference to the spot represented. This he concludes to be the Pythion on the Ilissus at Athens, where there was no temple, but an ancient *agalma*, a tripod, and an altar, while a wall separated it from the Olympieum. All these details are shown in the best examples of the relief, the temple being Corinthian, as completed by Hadrian, and the other details being consistent with a late date. On the frieze of the temple is a chariot race, the pediment figures suggest a conflict of gods and giants, and the acroteria are Victories in the attitude of the Nike of Paenionius. These decorations are suitable to the Olympieum. It is suggested that the octostyle Corinthian temple on a relief at the Villa Medici, once interpreted by Petersen as the temple of Mars Ultor, is probably the temple of Divus Hadrianus, with the figure of the emperor in the centre of the pediment.

SCULPTURE

A Handbook of Greek Sculpture.—A welcome addition to the handbooks published by the Royal Museums in Berlin is the volume on Greek Sculpture by R. KEKULE VON STRADONITZ. It is a brief history of this branch of Greek art, in which each period is first discussed in its general aspects and with reference to its typical productions, and then illustrated further by an account of representative works in the Berlin collections. This method of treatment and the large number of illustrations render the work useful also to those at a distance from Berlin. There is no discussion of disputed points, and the subject is naturally presented from the standpoint of the author, who has little sympathy with some recent hypotheses and identifications in this field. (*Die Griechische Skulptur*, von R. KEKULE VON STRADONITZ, *Handbücher der Königlichen Museen zu Berlin*, Vol. XI. Berlin, 1906, G. Reimer, 383 pp.; 155 figs. 8vo; Mk. 4.50, paper, 5. bound.)

An Imitation of Ancient Clay.—The *Scientific American*, October 27, 1906, describes an artificial clay invented by a Norwegian sculptor, C. D. Magelssen, which is characterized by plasticity and ability to withstand intense heat without shrinking or cracking. It is possible to mould figures of large size on iron frames and bake them without detaching the clay from the supports. The discoverer believes that to the use of a clay possessing these properties, which depend on the absence of organic impurities, the Greek artists owed the perfection of their large statues and small figurines of terra-cotta.

Some Sculptures at Turin.—Five pieces of sculpture at Turin are described by A. J. B. WACE in *J.H.S.* XXVI, 1906, pp. 235–242 (3 pls.). They are: (1) Head of an athlete, a copy of a bronze original belonging in

the latter half of the fifth century, and perhaps by an Athenian artist who came under Argive influence. The hair is Polyclitan, the flesh rather Athenian in style. (2) Torso of Athena, a good copy of a type of the school of Praxiteles. Fifteen replicas are known, including the fine bronze at Florence. (3) Youthful male torso, in a dancing or rising attitude, slender and graceful and with excellent drapery. Copy of a bronze of the later fourth century, which may be classed with the Ganymede of the Vatican attributed to Leochares and the bronze dancing satyr at Naples. (4) Head of an athlete, of a type which may be placed with the so-called Jason, between the Apoxyomenus and the Borghese warrior, about 200 B.C. (5) Statuette of a priestess of Isis, with long flowing draperies and head thrown back. It is Graeco-Egyptian work of the late third century B.C., and shows to a marked degree the *morbidezza* characteristic of Greek work of that period.

Ancient Sculptures in the Church of the Panagia Gorgoeipikoos at Athens.—The fragments of ancient reliefs which are built into the outer walls of the church of the Panagia Gorgoeipikoos ("Little Metropolitan") at Athens are described in some detail by P. STEINER in *Ath. Mitt.* XXXI, 1906, pp. 325-341 (2 figs.), as a supplement to the account of the church by Michel and Struck (see *infra*, p. 234). Fourteen pieces are described, but the discussion is concentrated on two reliefs representing Nikes handing prizes to female figures, who represent the victorious tribes; an archaistic relief, representing a warrior apparently following the body of a friend; a grave-relief, representing two women in an aedicula, which leads to a brief discussion of typical figures appearing in late grave-reliefs, but evidently drawn from earlier statues; and the frieze with cult objects, which seem to point to a connection with the Eleusinium. The calendar frieze has already received adequate discussion elsewhere, and the reliefs representing Roman military decorations are treated in *Bonn. Jb.* 114, pp. 1-98.

Terra-cotta Plaques from Praesus.—In *B.S.A.* XI, 1904-05, pp. 243-257 (20 figs.), E. S. FORSTER continues his discussion of the terra-cottas from Praesus (see *A.J.A.* VIII, p. 314) by publishing the series of plaques, containing some thirty types. Seventeen varieties had been published by Halbherr, *A.J.A.* V, 1901, pp. 371-392. The plaques fall into an archaic group, a middle group corresponding roughly to the fifth and fourth centuries, and a Hellenistic group. In the first period the types seem connected with the Eteocretan religion, and show relations with Egypt, Cyprus, and Sardinia; in the second period the types are less hieratic, and show an art far behind that of the mainland; in the third period Hellenistic Greek art is completely dominant.

The Group of Harmodius and Aristogeiton.—In *Jb. Kl. Alt.* XVII, 1906, pp. 544-549 (2 pls.), F. STUDNICZKA discusses the group of the Tyrannicides by Critios and Nesiotes, and its relation to the earlier group by Antenor. He accepts the Boston fragment (see *A.J.A.* X, p. 471), as conclusive evidence that the Naples statues represent the later group, but argues that it resembled closely the earlier work for which the best authority is the Skaramangá lecythus in Vienna (Masner, Catalogue, No. 264, Fig. 19).

"The Birth of Venus."—In *Rec. Past.* VI, 1906, pp. 204-213 (2 figs.), S. A. JEFFERS discusses the relief representing the birth of Aphrodite now

in the National Museum at Rome, and Botticelli's painting of the birth of Venus in the Uffizi, as typifying the ideals of Greek art in the early fifth century, and those of the Renaissance.

A New Replica of the Choiseul-Gouffier Type.—The right leg of a statue of Greek marble in the style of the middle of the fifth century is now in the Terme Museum at Rome. It corresponds in all details with the Choiseul-Gouffier statue in London and the "Apollo on the Omphalos" in Athens, and represents a very fine replica of the type. A quiver hanging on the supporting tree trunk corroborates the usual interpretation as an Apollo. (G. DICKINS, *J.H.S.* XXVI, 1906, pp. 278-280; 3 figs.)

An Apollo by Paeonius.—A definite idea of Paeonius of Mende's representation of a god may be gained by a comparison of the youthful Apollo at Ince Blundell Hall with the Nike and with the Hertz head (*Röm. Mitt.* IX, p. 162) which is a copy of that of the Nike. This comparison reveals such close and striking resemblances in detail as to prove conclusively that the originals were from the same hand. The Hertz head is a good copy from marble, the Apollo statue an inferior copy from bronze. The attitude of the statue has many analogies among the reliefs of northern Greece, but none in the round. It shows the attempt of the sculptor to modify the stiff conventionality of the archaic standing position, and cannot be later than the middle of the fifth century. This fixes also the disputed date of the Nike, as the resemblances are too strong to admit of any considerable interval between the two works. (B. SAUER, *Jb. Arch. I.* XXI, 1906, pp. 163-176; 10 figs.)

Leto with her Children.—In *R. Arch.* VIII, 1906, pp. 290-296, A. MAHLER discusses the bronze statuette of Leto and her children in the Capitoline Museum (Reinach, *Répertoire de la statuaire*, II, 417, 7) and its replicas. Following Arndt, he compares it with a statue in Copenhagen (*Glyptothèque Ny-Carlsberg*, pls. 38-40, *Répertoire*, II, 419, 2), and indirectly with Calamis. He thinks it may be the work of Praxiteles mentioned by Pausanias (I, 44, 2), in which case it must be by the elder Praxiteles, whom he regards as a pupil of Calamis and father of Cephisodotus. This accounts for the resemblance between the Leto and the Eirene and Plutus.

Splanchnoptes.—In *Jb. Arch. I.* 1893, pp. 224 ff., M. Mayer interpreted a marble statue from the Olympieum in Athens (Kavvadias, *Γλυπτά*, No. 248), as a *σπλαγχνόπτης*, a youth holding the flesh of an offering on a fork over the altar. In confirmation of this view, A. VON SALIS publishes in *Athen. Mitt.* XXXI, 1906, pp. 352-358 (pl.), a small bronze statuette from Dodona representing a youth holding a three-pronged fork, and in style very similar to the Athenian statue. Analysis of the forms leads to the conclusion that the original was a product of the transitional period, which preceded the Parthenon sculptures, and of which the boy extracting a thorn from his foot is one of the best examples.

The East Frieze of the Parthenon.—Quite independently K. WEISSMANN and A. S. ARVANITOPOULLOS have identified the ten standing figures on either side of the gods on the east frieze of the Parthenon (Michaelis, *Parthenon*, Nos. 18-23, 43-46) with the eponymous heroes of the ten tribes. The former (*Hermes*, XLI, 1906, pp. 619-623) identifies Nos. 43-46 with Oeneus, Acamas, Aegeus, and Pandion, Nos. 18, 20, and 23 with Cecrops, Erechtheus, and Leos, while the other three members must include Ajax,

Antiochus, and Hippothoon. The latter (*Ath. Mitt.* XXXI, 1906, pp. 33-49; 2 pls.; 2 figs.), suggests that Nos. 43-46 are Erechtheus, Aegeus, Pandion, and Leos, and Nos. 18-23, Acamas, Oeneus, Cecrops, Hippothoon, Ajax, and Antiochus. He also uses the parody of the Panathenaic procession in Aristophanes, *Eccles.* 728 ff., to explain some details in other portions of the frieze.

Apollo or Athlete?—In *Jh. Oest. Arch. I.* IX, 1906, pp. 279-287, F. HAUSER defends his view (*ibid.* VIII, pp. 42 ff.; *A.J.A.* IX, p. 468), that the Diadumenus of Polyclitus was originally an Apollo against Löwy (*ibid.* pp. 269 ff., *A.J.A.* X, p. 445). It must be proved that so marked an attribute as the quiver is ever used thoughtlessly. The Delian artist would not have transformed a short-haired athlete into an Apollo, for the typical



FIGURE 1.—MARBLE HEAD OF ALEXANDER.



FIGURE 2.—BRONZE STATUETTE OF ALEXANDER.

Apollo after Praxiteles was not an athlete; he must therefore have known that the original represented Apollo. A definite school of Greek art uses the same types for gods and men. Several details in Löwy's argument are also discussed.

Calamis.—The literary evidence as to the date and works of Calamis is examined in detail in *Jh. Oest. Arch. I.* IX, 1906, pp. 199-268 (4 figs.) by E. REISCH. Praxias, a pupil of Calamis, made the sculptures in the east pediment of the temple of Apollo at Delphi (*Paus.* X, 19, 4). This can only refer to the new temple, and Praxias, who is also known from inscriptions of about 360 B.C., must have finished his work not later than 340 B.C. His master then was active in the early part of the fourth century, and this

agrees with the passages which refer to works of Calamis in connection with those of Praxiteles and Scopas. A Calamis also made, with Onatas, the group ordered by Hiero and dedicated at Olympia by Deinomenes in 467-466 B.C. To the same artist must belong the offering of Acragas at Olympia, the statue of Ammon dedicated at Thebes by Pindar, and the colossal Apollo at Apollonia. Thus literary evidence points to two artists named Calamis, living nearly a century apart, and a study of the statements about the statues of Calamis shows that they naturally fall into two groups, of which one seems to contain works characteristic of the fourth century. The elder Calamis worked exclusively in bronze. To the younger are ascribed chryselephantine and marble statues, and his name is mentioned as a worker in precious metals by Pliny, *H.N.* 33, 156.

Two New Portraits of Alexander.—In *R. Arch.* VIII, 1906, pp. 1-6 (2 pls.; 6 figs.), S. REINACH publishes and discusses the marble head and the bronze statuette—both portraits of Alexander—in the Dattari collection in Cairo (Figs. 1 and 2). See *Arch. Anz.* 1905, pp. 67 f.; *A.J.A.* 1906, p. 63.

Pannychis.—The bronze group of statues by Euthykrates, son of Lysippus, mentioned by Tatian is discussed by E. MAASS in *Jb. Arch.* I. XXI, 1906, pp. 77-107 (2 figs.). He interprets Tatian's words to mean, "The wooing at the night festival of the Pannychis"; and with the aid of the "Auge and Heracles" in the house of the Vettii at Pompeii, and the "Heracles and Telephus before Arcadia" from Herculaneum, he gains an idea of the appearance of the group. The wide-winged figure in the Pompeian fresco is the personified Pannychis, and the winged woman in the Herculanean painting is Themis, while the eagle and lion, king of birds and king of beasts, indicate the power of the heaven-born child over the fierce passions of nature.

A Votive Relief to Asclepius.—The votive relief to Asclepius (Fig. 3) recently discovered in Athens (see *A.J.A.* IX, p. 108) is discussed in *B.S.A.* XI, 1904-05, pp. 146-150 (2 figs.) by G. B. BYZANTINOS. He regards it as a work of the early third century B.C. It is possible that Silon dedicated the sandal as a memorial of his journey to the shrine, but it is also possible that the sandal had saved its wearer's foot from injury. A shoe which had saved its owner from the bite of a snake was seen by the author among the votive offerings in a Greek church.



FIGURE 3.—VOTIVE RELIEF TO ASCLEPIUS.

A Head connected with Damophon.—The Vatican contains a head in *rosso antico* (Catalogue, No. 293^v; Helbig, Führer,² I, p. 144, No 242) a replica of which in the same material is in the Ny Carlsberg Glyptotek at Copenhagen. The head seems to represent a satyr and bears a striking resemblance to the head of Anytus by Damophon. The stylistic forerunner of these heads is the Zeus of Otricoli, and two derivatives of this head, in Naples and Parma, correspond in their variations with the heads of Anytus and the satyr. The satyr head seems to represent an early work of Damophon, or perhaps of his master, and to belong to the period of reaction which falls in the first half of the third century B.C. (G. DICKINS, *B.S.A.* XI, 1904-1905, pp. 173-180; pl.)

The Aphrodite of Polycharmus.—In *C. R. Acad. Insc.* 1906, p. 306, S. REINACH proposes to read in Pliny, *H.N.* XXXVI, 36, *Venerem lavantem sese Daedalus, stantem [pede in uno] Polycharmus*. The statue of Polycharmus is therefore represented by the numerous figures of Venus standing on one foot while adjusting her sandal on the other. The original was probably at Aphrodisias.

Ganymede.—A fragmentary statue from Ephesus, now in Vienna, represents Ganymede seized by the eagle. The boy has sunk on his left knee, while the right leg is stretched out. A replica of this statue is in Madrid, and the same version of the scene is found on a relief in Florence and mosaics from Baccano and Sousse. The statue from Subiaco and the Ilioneus also probably represent Ganymede alarmed by the eagle. The mosaics and relief seem derived from a painting, which also influenced the sculptor, who may have known the work of Leochares. (H. LUCAS, *Jh. Oest. Arch.* I. IX, 1906, pp. 269-277; pl.; 3 figs.)

The Laocoön in France.—The discovery of the right arm of Laocoön by L. Pollak (cf. *A.J.A.* X, 1906, p. 352) leads E. MICHON in *B. Soc. Ant. Fr.* 1906, pp. 271-280, to a discussion of the restorations made during the sojourn of the group in France. The earlier restorations were removed before the group was taken from Rome, and replaced in plaster on its arrival in Paris. At this time the right arm of Laocoön was modelled from a restoration of the group by Girardon. The restorations were still in place on the return of the group to Italy, and do not seem to have been removed since.

A Pseudo-Praxitelean Group.—The Louvre contains a Graeco-Roman group of Aphrodite and Eros, the plinth of which bears the name of Praxiteles (Loewy, *Inscr. griech. Bildh.* No. 502). It is commonly stated that during the last century this base was removed. In *B. Soc. Ant. Fr.* 1906, pp. 120-122, CH. RAVAISSON-MOLLIEN argues that this removal never took place. *Ibid.* pp. 125-133, E. MICHON gives a full account of the history of the group and its inscription. While the authenticity of the inscription is not beyond question, it has never been removed from the group. When the group was first exhibited in the Louvre it was provided with a square base, which concealed the inscribed oval plinth. This border has since been removed, and the inscription is now plainly visible. A portion of the forged inscription on the statue of the Procurator Caninius has also become visible by the removal of a modern border. *Ibid.* p. 134, RAVAISSON-MOLLIEN claims that the figure of Eros is in a Roman style, inferior to that of the Aphrodite. The head and part of the bust of the goddess are modern and taken from a statue of the seventeenth century.

VASES AND PAINTING

Cretan Decorative Art. — In *Transactions of the Department of Archaeology* (University of Pennsylvania), II, 1906, pp. 5-50 (3 pls.; 68 figs.), EDITH H. HALL examines the designs on Cretan vases of the bronze age. She classifies the designs as (1) *Imitative*, including (a) pure naturalistic designs, (b) conventional naturalistic designs, in which natural objects are represented in conventional forms, (c) conventionalized naturalistic designs, in which natural objects are represented in stereotyped forms due to mechanical copying, and (d) sacral designs; and (2) *Non-Imitative*, including (a) simple, and (b) complicated patterns. An elaborate chronological table gives the Cretan vases, and other decorated objects, with their provenience and place of publication, as well as some non-Cretan parallels. Before the Kamares ware (Middle Minoan II) only non-imitative designs are found, though tendencies toward conventional naturalistic decorations are found in Early Minoan III and Middle Minoan I. In Middle Minoan III a purely naturalistic type is achieved, and sacral patterns appear. The marine designs appear in Late Minoan I. In Late Minoan II all classes of design, except the complex non-imitative, are represented. Late Minoan III contains the "Mycenaean" vases, which are characterized by a large use of conventionalized naturalistic designs, due to unintelligent copying.

Middle Minoan Pottery. — In *J.H.S.* XXVI, 1906, pp. 243-267 (5 pls.), D. MACKENZIE supplements his earlier study of Cnossian pottery (*ibid.* XXIII, pp. 157 ff.; *A.J.A.* VII, p. 468) from the larger material now at hand. The dark-on-light and light-on-dark techniques he again finds coexisting from the beginning to the end, as two sides of the decorative principle of contrast. The Early Minoan age inherited simple geometric forms and colors from the neolithic age and used chiefly white, red, and black. Here began the tendency to curvilinear forms which was developed in the succeeding first period of Middle Minoan. In this period, with an increase in forms, new colors also appear, having a general tendency toward lighter and yellowish shades. The Kamares period brought polychrome decoration to its height, with the most successful synthesis of dark-on-light and light-on-dark in harmonious design. With a growing appreciation of the relation between shape and decoration, the main design tended to usurp the space on the shoulder of a vase, leaving the less conspicuous parts for simpler and more primitive ornament. The principle of decorating in horizontal bands, which maintained a successful rivalry with that of vertical panelling and a symmetric arrangement, and survived into classic times, had its origin quite as much in this sense of fitness as in the conveniences of the wheel. The third period, which saw the rapid decay of polychrome ornament, is characterized by the growth of a naturalistic tendency and a return to monochrome technique, the last as a natural consequence of the first, because the polychrome scheme of the earlier period could not represent natural objects in their proper color. Here wall-painting and ceramic art, so long parallel, may have taken different ways. This period saw the perfection of the free, broad use of naturalistic design, especially in the pottery of the temple repositories. Each of the last two periods ended with some widespread calamity which hastened the already latent tendency to decay. The art known as Mycenaean or Achaean in Greece, Italy, Asia Minor, and elsewhere belongs to the out-

skirts of the Minoan culture of which Crete was the centre, and is wholly southern and not European in origin.

A Proto-Corinthian Lecythus in Berlin.—A class of very small lecythi with plastic decoration imitated from metal, of which there is a very fine specimen at Berlin, is discussed by O. WASHBURN in *Jb. Arch. I.* XXI, 1906, pp. 116-127 (pl.; 4 figs.). The Berlin example, 7 cm. high, has a lion's head as a mouth, a lion for a handle, and other plastic as well as painted decoration. The influence of Mycenaean art is clear, but there are indications of another origin, perhaps geometric and contemporary with the Dipylon and Boeotian styles, in the ninth century. Probably none are so late as 600 B.C., though the Berlin vase is one of the latest. The inscriptions on several indicate an Aeolic or Doric origin, probably in Asia Minor, for the single example with an Ionic inscription, that at Boston, is exceptional. Proto-Corinthian ware remained in use during the early Corinthian period, and some of it may have been made at Corinth.

Fragments from Eleusis.—In *Ath. Mitt.* XXXI, 1906, pp. 186-204 (pl.; 3 figs.), K. RHOMAIOS publishes two vase-fragments from Eleusis of especial interest because of their technique, as the decorations are applied in color on a black ground. The more important fragment is part of the inner picture of a cylix. A full discussion leads to the conclusion that the scene represents Pluto with Demeter and Cora, and that the style and technique indicate the work of an Ionian artist settled in Attica about 530 B.C. The polychrome decoration on a black ground is claimed as Ionian in origin. The other fragment, in similar technique, is a head of Athena from an omphalos cylix. It is Attic work.

The Cacus Vase in the Ashmolean Museum.—The interpretation of E. Pernice (*Jb. Arch. I.* XVI, 1906, pp. 45 ff.; see *A.J.A.* X, p. 449), that this vase represented Hermes seizing Paris, is rejected by P. GARDNER in *J.H.S.* XXVI, 1906, pp. 226-228 (fig.). The inconsistencies in the drawing are perhaps due to an unskilful workman, who adapted a group from another scene to the Heracles and Cacus story.

Distribution of Attic Vases.—The distribution of Attic vases throughout the ancient world is discussed by Miss G. M. A. RICHTER in *B.S.A.* XI, 1904-05, pp. 224-242 (4 figs.), on the basis of a study of the number of examples of each form in the Athens Museum in comparison with those from Etruria and Campania in the British Museum, the Berlin Museum, and the Hermitage. A classified table shows that the chief demand from Italy was for amphorae, hydriae, cylices, oenochorae, and to a less extent for lecythi, crateres, and cups. Loutrophori, lebetes, *δωα*, white lecythi, red-figured aryballi and pyxides are not found in Italy. In Athens itself the vases are chiefly such as were used for the toilet or for special purposes, as funerals and weddings. These vases, manufactured for the home market, are studied in detail. In two appendices are published a red-figured loutrophoros with the death of Penthesilea, and a fragment of a pyxis showing apparently a bride surrounded by vases received as gifts.

An Amphora in the Boston Museum.—In *Harvard Studies in Classical Philology*, XVII, 1906, pp. 143-148 (pl.), G. H. CHASE publishes in a modified form a paper presented at the General Meeting of the Archaeological Institute at Princeton (*A.J.A.* VII, 1903, p. 96), in which he describes a red-figured amphora in the Boston Museum of Fine Arts, bearing the inscriptions Πάθων καλή and Νίκη καλή.

Two White Lecythi from Eretria.—In 'Εφ. 'Αρχ. 1906, pp. 1-22 (2 pls.; 7 figs.), K. KOUROUNIOTES publishes two Attic white lecythi from a tomb at Eretria, both inscribed Δίφίλος καλός, and evidently from the same workshop. Lecythi bearing the same καλός-name, published by Bosanquet, *J.H.S.* 1896, pp. 164 ff., while contemporary, seem from a different pottery. The writer describes the construction of the Attic lecythi, differing from Pottier on several points. He interprets the scenes on his two specimens as representing the deceased woman seated and receiving offerings from the living woman who stands before her.

INSCRIPTIONS

The Oldest Greek Alphabet.—The origin and development of the Greek alphabet is discussed by A. GERCKE in *Hermes*, XLI, 1906, pp. 540-561. After considering many details, he concludes that the supplementary signs were developed before the foundation of Cumae (ca. 730 B.C.), and that the origin of the Greek alphabet cannot be placed much later than the beginning of the ninth century, as the Lycian and Carian alphabets, which imply the Greek, originated before the end of that century. In any case the invention of the alphabet is later than the Dorian occupation of the islands.

Tsade and Sampi.—In *J.H.S.* XXV, 1906, pp. 338-365, F. W. G. FOAT discusses in detail the history of the sign for 900 in Greek numeration, including the question of the relation of the Phoenician and Milesian alphabets, and the Greek and Hebrew numerical systems. He concludes that Greek Μ, not Τ, represents the Semitic Tsade, and that the name Sampi as applied to the sign Ϻ has no ancient authority. *Ibid.* XXVI, 1906, pp. 286-287, he calls attention to the discovery of the forms τῆΤαρες and τῆΤαράϙοντα in an early Ionic inscription from the Artemisium at Ephesus. This confirms the view that the character represented a dental sibilant. It seems to have been confined to the Ionic coast of Mysia and Lydia, and the Pontic coast of Thrace.

An Epitaph from Megara.—In *Ath. Mitt.* XXXI, 1906, pp. 89-93, 229-230 (pl.), A. WILHELM publishes the earliest known epitaph from Megara, consisting of an elegiac couplet, with remains of a preceding line. The forms of the letters indicate a date in the early fifth century. The couplet reads [Αα] κληγονπροκ | λεοσταδεντιδε | σαιτεκααλη: καικ | αληθαρητηδετρ | σποιπο[λιο]s. Though the lines are practically complete, the interpretation is difficult. Wilhelm regards it as expressing the grief of a wife or mother for the dead. F. SOLMSEN (*ibid.* pp. 342-348) criticises Wilhelm's readings in detail. He thinks the inscription was on a cenotaph. In *Nachrichten von der Gesellschaft der Wissenschaften zu Göttingen*, 1906, pp. 231-239, B. KEIL accepts Wilhelm's interpretation, but reads the text very differently. *Ibid.* pp. 240-241, E. SCHWARTZ argues that it is from a cenotaph. In *Philologus*, LXV, 1906, pp. 474-475, J. BAUNACK adds a note on the text.

Notes on Attic Inscriptions.—In *Rh. Mus.* LXI, 1906, pp. 344-351, J. E. KIRCHNER publishes notes on Attic inscriptions. He treats first the priests of Asclepius, in connection with Sundwall's and Ferguson's discovery that the annual priests were chosen in the official order of the tribes. He gives a table of archons, tribes, and priests, so far as they are known, from

350-318 B.C., based chiefly on *I.G.* II, 766 and 835. The priest Δῆμων Δημομέλους Παιανιεύς (*I.G.* II, 1654) is placed in 350-49 B.C., and identified with the cousin of Demosthenes. The article also discusses the deme of the Ποτάμοι Δαιραδιῶται, who appear in the fourth century. It belonged to the tribe Antigonis, and its members sometimes appear under the double name, and sometimes under each name singly.

Attic Accounts of the Fifth Century.—In *Rh. Mus.* LXI, 1906, pp. 202-231, W. BANNIER discusses the formulae employed in the Attic inscriptions containing official accounts. He concludes that the older documents were all arranged by the year, that changes in detail soon appear, and that probably between 423 and 418 B.C. the accounts were arranged by prytanies with further variations in the details.

The Walls built by Conon.—In *Ath. Mitt.* XXXI, 1906, p. 372, E. NACHMANSON reports that the inscription relating to the rebuilding of the walls of Athens by Conon (*Ath. Mitt.* 1905, pp. 391 ff.; *A.J.A.* X, p. 450) is now in the Musées Royaux du Cinquantenaire, in Brussels, and gives some minor corrections furnished by J. de Mot.

The Erection of a Tripod.—In *Ath. Mitt.* XXXI, 1906, pp. 134-144 (fig.), M. HOLLEAUX publishes with a detailed commentary an inscription recently found near Athens, containing specifications for the erection of tripods at Cynosarges. *Ibid.* pp. 145-150 (fig.), W. DÖRPFELD reconstructs the monument. Underground was a foundation of rough stone, on which was erected an *orthostates*, a square pillar, covered by a large flat stone, on which the tripod was placed and secured by lead. Under the bowl of the tripod was placed a marble column. *Ibid.* pp. 359-362, H. LATTERMANN suggests corrections to the text.

An Inscription from Carystus.—The inscription *I.G.* III, 1306, containing a list of *Bouleutai* is shown by a copy made by Mionnet to come from Carystus in Euboea. It thus gains greatly in value, as throwing light on the organization of this important place in the second century A.D. (F. HILLER VON GAERTRINGEN, *Ath. Mitt.* XXXI, 1906, pp. 349-351.)

The Report of an Agonothetes.—In *B.C.H.* XXV, pp. 365 ff. (*A.J.A.* VII, p. 373) W. VOLLGRAFF published the ἀπολογία of an Agonothetes of the *Basileia* at Lebadia. This has been again studied by M. HOLLEAUX, *ibid.* XXX, 1906, pp. 469-481 (fig.), who gives a new text of one face of the stele, and argues at length that the inscription must be dated at the end of the second or beginning of the first century B.C.

Inscriptions from Delphi.—In *Hermes*, XLI, 1906, pp. 356-377, H. POMTOW discusses the fragments from Delphi of the list of honors bestowed on Cassander, son of Menestheus of Alexandria Troas, a fragment of which was published by Kaibel, *ibid.* VIII, pp. 417 ff. Recent discoveries show that it was probably engraved on the Treasury of the Cnidians. The article also contains corrections to the six other Delphian inscriptions published by Kaibel.

An Inscription from Cumae.—In *Not. Scav.* 1905, p. 377, A. Sogliano published an archaic inscription from Cumae, reading Οὐ θέμις ἐν ταῖς ἀκαῖσθ' αἰ με τὸν βεβαχχενμένον. In *B. Phil. W.* 1906, pp. 957-958, R. ENGELMANN interprets με as μή, and the inscription as a prohibition against burying the uninitiated in a certain place.

Notes on Dialectic Inscriptions.—In *Sitzb. Sächs. Ges.* LVII, 1905, pp. 272-286, R. MEISTER continues his studies in Greek epigraphy. (1) The inscription ΜΕΝΕΤΥΞΕΑΥΥΑ on coins of Aspendus is read Μένετυς ἔλ(λ)υψα(ν); in Attic οἱ Μένετος ἔγλυψαν. (2) The inscription from Laconia (*B.S.A.* X, p. 188, No. 15) is corrected and interpreted. It is in the old Doric dialect, which is scarcely known outside of Sparta. The examples of this dialect from Laconia are given. (3) Corrections and notes on the dialect of Boeotian inscriptions from Thespieae, Acraephia, and Thebes.

Ἀρχιατρός τὸ δ'.—In *Jh. Oest. Arch.* I. IX, 1906, pp. 295-297, P. WOLTERS discusses the phrase ἀρχιατρός τὸ δ', which appears in a list of victors in the ἀγῶν τῶν ιατρῶν at Ephesus (*ibid.* VIII, pp. 119 ff.; *A.J.A.* IX, p. 346). It does not refer to a fourth election as city physician, for this was a life appointment, but to a fourth choice as Agonotheses.

Ἀκρόνυχα.—In *Rh. Mus.* LXI, 1906, pp. 472-473, F. B. discusses the meaning of ἀκρόνυχα, as it appears in the phrase ἐν τε τοῖς ἀκρονύχοις καὶ τῇ ταυροδιδασκίᾳ, in an inscription from Miletus (*Sitzb. Berl. Akad.* 1906, p. 258). The word refers to the firm grip on the hoof or horn of the animal, and is probably a technical term with trainers.

Epigraphic Notes.—In *Ἐφ. Ἀρχ.* 1906, pp. 115-116, S. BASES suggests corrections to the Thessalian inscriptions published by G. Zekides, *ibid.* 1905, p. 189 ff. In *B.C.H.* XXX, 1906, p. 466, are brief notes by A. JARDÉ on Thessalian inscriptions in *Ἐφ. Ἀρχ.* 1905, pp. 187 ff. (*A.J.A.* X, p. 349.) In *B.C.H.* XXX, p. 468, M. HOLLEAUX confirms a suggestion of Meister as to the Thespian inscription, *ibid.* XXI, p. 554. *Ibid.* pp. 467-468, A. D. KERAMOPOULLOS gives a revised text of the dedication of Philetaerus and epigram of Honestus from Thespieae, published by P. Jamot, *ibid.* XXVI, p. 155 (*A.J.A.* VII, 380). In *Ath. Mitt.* XXXI, 1906, pp. 228-229, A. WILHELM gives a revised text of the archaic inscription from Tegea, published by G. Mendel, *B.C.H.* XXV, p. 267. In *Klio*, VI, 1906, p. 331, H. LATTERMANN publishes a revised text of the Eleusinian inscription, *I.G.* II², 1054, lines 52-57, which confirms some important restorations suggested by him, *Klio*, VI, pp. 140-168. In *Ath. Mitt.* XXXI, p. 236, S. N. DRAGOMES suggests a restoration of the dedication to Aphrodite Pandemus recently discussed by Weilbach and Kawerau (see *A.J.A.* X, 1906, p. 194).

Epigraphic Bulletin.—The articles on Greek epigraphy, which appeared in fifty-seven periodicals during 1903 and 1904, are summarized with annotations and occasional publication of the inscriptions, by É. BOURGUET in *R. Ét. Gr.* XIX, 1906, pp. 25-55.

Greek Epigraphy in Europe.—In *R. Arch.* VIII, 1906, pp. 97-119, S. CHABERT concludes his history of the study of Greek epigraphy in Europe (see *A.J.A.* 1906, p. 197) with a brief description of the present condition of that study and the work carried on by the scholars of the various nations.

COINS

Signatures of Engravers on Greek Coins.—In *R. Belge Num.* LXII, 1906, pp. 5-38, 117-153 (many cuts), L. FORRER completes his descriptive catalogue of Greek coins, with signatures of engravers. He also mentions a number of inscriptions that cannot with certainty be interpreted as the

signatures of the artists, and others that, though formerly accepted as such, must now be rejected.

Asiatic Influences in Cumae.—The coinage of the Italian Cumae shows connection in artistic and religious types with the Graeco-Asiatic east, thus proving that others than settlers from the Aeolic Cyme had a share in founding the Italian city. (ETTORE GABRICI, *R. Ital. Num.* XIX, 1906, pp. 317-328, plate; 3 figs.)

GENERAL AND MISCELLANEOUS

Cretan Fencing.—In *Athen.* July 21, 1906, A. LANG calls attention to the long bronze rapiers found in the graves at Cnossus. Such weapons for thrusting must have been useless against the great shields, and seem to indicate a school of fencing with rapier and dagger or cloak, such as prevailed in Europe at the end of the sixteenth century.

The Vaphio Cups.—In *Jh. Oest. Arch.* I. IX, 1906, pp. 294-295, A. KÖRTE, following a suggestion of the late Professor Lipschitz, argues that on the second Vaphio cup, the affectionate attitude of the two animals is best explained if the smaller one in the background is a cow.

Scylla in Mycenaean Art.—In *Ath. Mitt.* XXXI, 1906, pp. 50-52 (2 figs.), F. STUDNICZKA compares a seal from Cnossus (*B.S.A.* IX, p. 58) representing a boatman attacked by a sea-monster, with a fragment of fresco from Mycenae ('Εφ. 'Αρχ. 1887, pl. 11). These designs point to a legend similar to that of Scylla in the Odyssey. This early Scylla is also briefly discussed by O. CRUSIUS in *Philologus*, LXV, 1906, p. 320.

An Homeric Burial Custom.—In *Hermes*, XLI, 1906, pp. 378-388, W. HELBIG calls attention to the Greek custom of enveloping the remains of the dead, after burning, in wrappings, and then interring them in a coffer or urn. In Italy this method is first found in the later *tombe a pozzo* at Corneto, and may have been introduced by Greeks. In the Odyssey, XXIV, vss. 73-79, the remains of Achilles and Patroclus are placed in one covering, those of Antilochus in another, and thus kept separate, though in the same urn.

Topography of Early Athens.—In *Philologus*, LXV, 1906, pp. 128-141, W. DÖRPFELD discusses certain points in early Athenian topography, in reply to E. Drerup's article, *ibid.* LXIV, 1905, pp. 66 ff. He considers the Pelargikon, the Pyx, and the oldest city, controverting sharply Drerup's theories, and restating his own well-known views.

A Note on the Enneacrunus.—In *Cl. R.* XX, 1906, p. 330, J. R. WHEELER points out that Guillet's (or the Capuchin) map of Athens scarcely affords proof that in the seventeenth century there were remains of the Enneacrunus, where Dörpfeld would place it, as is stated by Miss Harrison in her recent work, *Primitive Athens as described by Thucydides*, p. 131.

The Social Position of Athenian Officials in the Fourth Century.—A careful examination of the literary and epigraphic evidence has led J. SUNDWALL to conclude that in the time of Demosthenes the government of Athens was by no means so completely in the hands of the proletariat as is commonly supposed. A study of the lists of officials of all kinds shows everywhere a disproportionate number of names from wealthy families. The annual priests of Asclepius are shown to have been chosen according

to the official order of the tribes. (J. SUNDWALL, *Epigraphische Beiträge zur sozial-politischen Geschichte Athens im Zeitalter des Demosthenes*. Leipzig, 1906, G. Kreysing. vi, 92 pp. 8vo).

The Attic "Tettix." — In *Jh. Oest. Arch. I.* IX, 1906, Beiblatt, pp. 77-86, E. PETERSEN discusses in detail Hauser's article on the Athenian Tettix (see *A.J.A.* X, p. 457). He argues that the literary evidence, when properly interpreted, is directly opposed to Hauser's view, and that the monuments lend themselves much more easily to the theory of Studniczka.

Triremes. — In *Cl. R.* XX, 1906, pp. 324-325, C. TORR replies to Newman's view of the Athenian trireme as represented on the Acropolis relief (see *A.J.A.* X, p. 457). The Athenian docks show that the triremes were not more than 20 ft. wide; hence if there was a gallery "of some amplitude," the hull would be so narrow as to afford neither room for the crew nor sufficient displacement to float its weight.

The Myth of Erichthōnius. — The myth of Erichthōnius and the three daughters of Cecrops is the subject of an investigation by the late BENJAMIN POWELL. He reaches the conclusion that "the whole myth is a confusion of Olympian divinities with chthonic or primitive cults, and Eastern influences, which it is well nigh impossible to unravel completely and to tabulate." An appendix contains the text of the literary sources. (*Cornell Studies in Classical Philology*, No. XVII. *Erichthōnius and the Three Daughters of Cecrops*, by BENJAMIN POWELL. New York, 1906, The Macmillan Co. 86 pp.; 12 pls. 8vo. Price 60 cents.)

The Cave at Vari and Plato. — In *Harvard Studies in Classical Philology*, XVII, 1906, pp. 131-142 (fig.), J. H. WRIGHT suggests that in the allegory of the Cave (*Rep.* VII, 514A-516C), Plato was influenced by recollections of the cave at Vari (*A.J.A.* VII, 1903, pp. 263-349), which in its natural features corresponds very closely to the philosopher's description.

Notes on the Prosopographia Attica. — In *Klio*, VI, 1906, pp. 330-331, J. SUNDWALL gives the family tree of Ἀντίμαχος Ἐθνωμόων Μαπαθάνιος, whose name he supplies in *I.G.* II¹, 269. From *I.G.* II², 251b, he reconstructs in part the list of Sophronistae for 306-305 B.C. The *Prosopographia Attica* mentions neither Lysiades of Athens (*Cic. Phil.* V, 131), who seems to have been archon in 51-50 B.C., nor Heraclitus, general in 133 B.C.

The Sanctuary at Eleusis. — At the July (1906) meeting of the Berlin Arch. Society, F. NOACK described the growth of the Sanctuary at Eleusis. A small natural terrace was, in the second millennium B.C., surrounded by a double wall, for support and for defence, and used as a place of worship and sacrifice. Here were the temple and altar mentioned in the Homeric Hymn. The area was enlarged by Pisistratus, by Pericles, and in the fourth century. The old terrace form was lost under Pericles, and the altar was moved eastward with each enlargement of the space, but the position of the entrance gate remained substantially the same, because determined by the path from the cave which was the seat of the most ancient worship. The chief building always retained, more than other temples, the domestic character of a megaron, as the home of the goddess and of her family of worshippers. (*Arch. Anz.* 1906, cols. 266-268.)

The Site of Delium. — In *B.S.A.* XI, 1904-1905, pp. 153-172 (2 figs.), R. M. BURROWS discusses the site of Delium, and concludes that, while there may have been a village near the modern Dilisi, the evidence points

to the neighborhood of the chapel of Hagios Demetrios, where there is a fragmentary inscription (. . . ὁ Ἀπόλλωνι τ[ὸν ναὸν]). Excavations here have yielded no further evidence, but there is no trace of the temple elsewhere.

Delphica. — In *Berl. Phil. W.* 1906, pp. 1165-1184, H. POMTOW describes conditions at Delphi, as studied by him during the spring of 1906. While praising the general work of the French, and especially their liberality to other scholars, he criticises sharply many details. Among the results of Pomtow's visit are a large number of topographical notes, new attributions of foundations, and new arrangements of many monuments. Homolle's Treasury of the Cnidians is assigned to the Siphnians. On the lower terrace, south of the temple, there were no anathemata, but the old sanctuary of Ge, and the sacred grove of laurel and myrtle. At the Marmoria the two temples of the *ἑταίρις* lay between the two temples of Athena. An appendix contains the translation of a letter by a Greek archaeologist, which appeared in the *Ἄστυ*, March 19, 1905, complaining of the delay in the publication of the results of the excavations.

An account of the ruins at Delphi, with some discussion of the topography and the sculpture, by P. DUCATI is published in *Atene e Roma*, 1906, pp. 198-212.

Olympiaca. — In *Jb. Arch. I.* XXI, 1906, pp. 147-163 (3 figs.), E. PFUHL reaches the following conclusions: The elliptical foundation which lies before the east front of the Pelopium represents the House of Oenomaus, while the Great Altar of Zeus lay in the narrow space between the Pelopium and the Heraeum. The double temple of Sosipolis and Eileithyia, the small building behind the Exedra of Herodes Atticus, was divided across the middle of the cella by a fixed screen, traces of which are preserved. In the east pediment of the temple of Zeus, leaving unchanged the five standing figures, the chariots and their drivers, and the reclining river gods, a new disposition of the other four figures is desirable. The two narrow, half-kneeling figures should be placed in front of the horses, as Sterope's maid and Pelops' groom; while the two broader, half-reclining figures belong behind the charioteers, the one with a staff on the left side, and the one without a staff on the right.

Honorary Statues in Ancient Greece. — In *B.S.A.* XI, 1904-1905, pp. 32-49, Miss M. K. WELSH discusses the erection of honorary statues in Greek times. Honorary statues are defined as "portrait-statues set up by the authorization of a public body out of regard for the person represented." They were erected in sacred or public places, and the expense was frequently borne by the person honored. The erection of such statues became a custom in the fourth century B.C. The history of the custom is traced in Athens, the rest of Greece, and finally in Asia Minor, with special reference to the Hellenistic period.

The Centaur in Art. — The development of the type of the Centaur in ancient art, and the scenes in which these monsters appear, are briefly discussed by A. SAMBON, *Le Musée*, III, 1906, pp. 4-13 (pl.; 12 figs.).

Negroes in Ancient Art. — In *Jh. Oest. Arch. I.* IX, 1906, pp. 321-324 (2 pls.; 2 figs.), R. VON SCHNEIDER publishes two new representations of negroes. The first is a vase in the form of a negro's head from Anthedon, belonging to the early third century and offering an instructive contrast to

the vase with the name of Leagros in Athens. The other is a bronze statuette from Carnuntum, representing a negro boy in a violent dance. It probably formed part of a lamp or candelabrum.

Alexander's Funeral Car.—In *Rh. Mus.* LXI, 1906, pp. 408–413, F. REUSS continues the discussion of the funeral car of Alexander (see *A.J.A.* X, 1906, pp. 199, 458). He argues that the *καμάρα* denotes a space covered by a vaulted roof, above which was the royal standard (*φαινικίς*). The *πόλος* (Diod. XXVII, 4) was a pivot connecting the floor of the *καμάρα* with the axles so that the latter could be turned without disturbing the body of the car. Other details are also considered.

Savings Banks in the Form of Beehives.—In *Ath. Mitt.* XXXI, 1906, pp. 231–235 (fig.), L. DEUBNER collects some evidence to show that Greeks as well as Romans (see *A.J.A.* VI, 1902, p. 455) had savings banks in the form of beehives, and that their existence explains *σίμβλος χρημάτων* in Aristophanes, *Vesp.* 241.

Greek Boxing.—In *J.H.S.* XXVI, 1906, pp. 213–225 (2 pls.; 2 figs.), K. T. FROST discusses Greek boxing as known through literary allusions and vase paintings. The sport early attained a high development, and remained substantially the same for several centuries. It differed essentially from the modern form in using round arm rather than straight blows, and in making little use of foot-work. The use of hard hand coverings, with or without weights, was universal. As there was no handicap, only the heaviest men tended to compete at the great festivals, and the sport was dangerous as well as painful.

Glass Goblets as Prizes.—Small glass goblets decorated with crowns and palms, and inscribed *λαβὲ τὴν νίκην*, or *εἰσελθὼν λαβὲ τὴν νίκην*, are discussed in *M. Soc. Ant. Fr.* LXV (1904–05), pp. 291–300 (fig.), by P. PERDRIZET, who concludes that they were made in Phoenicia, and were prizes at some of the Greek contests under the empire.

Archaeological Notes.—In *Le Musée*, III, 1906, A. SAMBON describes briefly a number of works of Greek art. Pp. 54–60 (10 figs.) he publishes five scenes from Greek vases, including the sale of an amphora, and the stratagem of Rhea, and a group of monuments representing a seated child holding a bunch of grapes which he tries to defend from a bird. Pp. 106–107 (2 pls.; fig.) he describes a red-figured lecythus with the inscription *λόχος* and a picture of Dolon creeping past a tree, a marble head resembling the Aeginetan sculptures, and a terra-cotta group of a young girl playing with a dog. Pp. 263–266 (3 pls.; fig.) contain a description of four archaic Greek bronzes. Pp. 428–432 (4 pls.; 5 figs.) he publishes (1) A very primitive bronze group of a small centaur before a tall man; (2) A Roman bronze statuette of Mars; (3) The bronze statuettes from a Lararium near Boscoreale; (4) A bronze vase in the form of a woman's head, probably Egyptian work of the time of Constantine; (5) A fragment of a vase signed by Nicosthenes; (6) A fine red-figured amphora from Capua; (7) A red-figured hydria from Italy with a curious representation of the finding of Erichthonius, in which the author suspects Etruscan contamination.

Archaeological Bulletin.—In *R. Ét. Gr.* XIX, 1906, pp. 151–174 (19 figs.), A. DE RIDDER publishes a 'Bulletin archéologique,' in which he summarizes with comments five articles on Greek architecture and excavations, fifteen on sculpture, five on frescoes and vases, five on bronzes and

terra-cottas, and two on a silver mirror and a glass bust. The articles have been already summarized in the JOURNAL.

Strabo's Travels in Greece. — The paper on 'The Extent of Strabo's Travels in Greece,' read by C. H. WELLER at the General Meeting of the Archaeological Institute at Ithaca (*A.J.A.* X, p. 84) is published in *Cl. Phil.* I, 1906, pp. 339-356.

ITALY

ARCHITECTURE

Vitruvius and his Work. — In *R. Arch.* VIII, 1906, pp. 268-283 (cf. *ibid.* XLI, 1902, pp. 39-81, III, 1904, pp. 222-223, 382-393, IV, 1904, pp. 265-266; *A.J.A.* 1904, p. 491), V. MORTET discusses the limitations of the work of Vitruvius and finds that the term *architectura* was ordinarily restricted to the construction and decoration of public and private edifices properly so called. Other matters are treated by Vitruvius only as subordinate.

The Rostra. — In *Berl. Phil. W.* 1906, pp. 1119-1120, F. BRUNSWICK points out that in determining the date of the Rostra it is important to discover the relation of the structure to the recently discovered subterranean passage near by. An irregularity in a portion of the foundations of the front wall seems connected with a continuation of this gallery, but also indicates that the wall was built after the passage was abandoned and forgotten. In *Cl. R.* XX, 1906, p. 379, T. ASHBY, Jr., discusses with approval Mau's paper on the Rostra (*Röm. Mitt.* 1905, pp. 230-266; see *A.J.A.* X, p. 459). Minute details which throw light on the relation of the Rostra of Caesar and those of Trajan, together with the various alterations of both, are briefly discussed by E. PETERSEN in *Röm. Mitt.* XXI, 1906, pp. 57-63.

SCULPTURE

The Arch of Titus. — In *Pal. Ex. Fund.* XXXVIII, 1906, pp. 306-315, W. S. CALDECOTT gives the exact measurements of the golden candlestick and table of shew-bread on the Arch of Titus, and compares them with the figures given in the Old Testament and Josephus. He finds that the candlestick corresponds with these figures, but the table is larger. This increase in size is attributed to aesthetic considerations.

INSCRIPTIONS

The Eituns Inscriptions. — In *Cl. Phil.* I, 1906, pp. 414-415, N. W. DEWITT interprets the *Eituns* inscriptions at Pompeii as indicating the places at which the Oscan citizens were allowed access to the city wall for purposes of promenade. *Eituns* = *liceto ire*, according to this interpretation.

The Calendar of Verrius Flaccus. — The new fragment of the calendar of Verrius Flaccus from Praeneste (*Not. Scav.* 1904, p. 393; *A.J.A.* 1906, p. 100) is discussed in *Atene e Roma*, 1906, pp. 212-214, by C. PASCAL. He gives a tentative restoration of the text, accepting Marucchi's [*stultor*] *um feriae* in the last line, but differing in other details.

Oculists' Stamps. — Most of the stamps used by Roman oculists to mark the pastilles employed in their treatment of the eyes have been found

in Gaul, some in Germany and Britain, but very few elsewhere. None are from Greece, where eye-salves were sold in jars, not as pastilles. The inscriptions on these stamps, originally edited by É. Espérandieu in *C.I.L.* XIII, pp. 559-610, have been reprinted in a separate volume, with plates, a bibliography, full indices, and a brief discussion of the forms and uses of the stamps. (*Signacula Medicorum Oculariorum recensuit AEMILIUS ESPÉRANDEU*. Paris, 1905, E. Leroux. 175 pp.; 68 pls. 8vo.)

In *B. Soc. Ant. Fr.* 1906, pp. 147-149, É. ESPÉRANDEU publishes four inscriptions from the cachet of an oculist, recently found near Reimersheim.

Epigraphic Bulletin. — In *R. Arch.* VIII, 1906, pp. 206-224, R. CAGNAT and M. BESNIER, in their review of epigraphical publications relating to Roman antiquity for the period March-June, 1906, give the text of sixty-eight inscriptions and notes on publications relating to epigraphy.

VASES

The Primitive Italian Urn. — At the May meeting of the Berlin Arch. Society M. MAYER discussed the primitive Italian urn, calling attention to a form resembling the Villanova type, but simpler, which was used for secular purposes only, and is found chiefly in southern Italy. The decoration of the Villanova urns shows northeastern and continental rather than Greek or Aegean affinities. It is doubtful whether Mycenaean influenced geometric art to the extent commonly supposed. (*Arch. Anz.* 1906, col. 193.)

COINS

The ὀβολός in Polybius. — In *C. R. Acad. Insc.* 1906, pp. 458-470, E. BABELON argues that Polybius, when speaking of Roman money, uses ὀβολός to denote the *as libralis* of 327 gr. This gives a more reasonable value to the prices mentioned in II, 15 and VI, 39, 12, where the Greek value for the ὀβολός is absurd.

The Type of Three Monetae. — The three standing female figures on certain Roman coins, each figure holding a pair of balances and a cornucopia, represent the coinage in the three metals. The middle figure occupies the place of dignity and represents Gold. The figure to her right represents Silver, as occupying the place next in dignity, that to her left, Bronze or Copper; cf. the position of the Capitoline group of Jupiter, Juno, and Minerva. (*FR. GNECCHI, R. Ital. Num.* XIX, 1906, pp. 311-316; 3 figs.)

Countermarks on Roman Coins. — G. PANSA writes in the *R. Ital. Num.* XIX, 1906, pp. 397-417 (pl.), on the countermarks found on Roman bronzes of the imperial period. He claims that these marks were designed not merely to legitimize, upon the accession of a new ruler, or the assumption of a new title, the coins of the preceding period, pending the issue of the new types, but sometimes also to mark coins intended for public donations. The countermarks are due to the authority of the Senate, and consequently are found generally on bronze coins only. Exceptionally silver coins are also thus stamped, when an emperor, by *damnatio memoriae*, lost also the right of coinage. Sometimes the existence of more than one stamp on the same coin is to be interpreted as due to the act of the emperor's own official, thus approving, by his supreme authority, the previous act

of the Senate. The much-discussed stamp NCAPR is to be interpreted *Neronis Caesaris Auctoritate Probatum*.

Roman Contorniates.—In *Num. Chron.* 1906, pp. 232-266 (2 pls.), KATHARINE A. McDOWALL argues in support of the claim that the so-called contorniates are properly denominated *calculi* and were used as counters in the games of the *tabulae lusoriae*. The article classifies the various types, and offers new interpretations of some unexplained or disputed types, and accurate reproductions of others which, though easy of interpretation, are of archaeological or mythological interest.

Roman Medallions.—FRANCESCO GNECCHI (who projects a corpus of medallions) argues that under medallions should be included all those pieces, of whatever size, that were issued by authority of the emperor, and not S. C., even before Hadrian's time. From the period of Gallienus, fabric and style must furnish the basis for decision. The classification should be into *maximi moduli* (the pieces now usually called medallions), *magni moduli* (large, or first, bronzes), *medii moduli* (middle, or second, bronzes), and *minimi moduli* (small, or third, bronzes—otherwise quinarii), thus retaining the time-honored designation M. M. (*R. Ital. Num.* XIX, 1906, pp. 295-310.)

Coinage of Hadrian.—In *R. Ital. Num.* XIX, 1906, pp. 329-374 (2 pls.), L. LAFFRANCHI presents a systematic classification, year by year, of the issues of Roman coins under Hadrian, —a task that neither Eckhel nor Cohen essayed.

Coin Portraits of the Third Century.—A bronze sheet with three coin-portraits of the third century A.D. in the Museo Kircheriano is discussed by F. STAEHLIN in *Röm. Mitt.* XXI, 1906, pp. 85-86 (fig.).

Coinage System of Diocletian and Constantine.—G. DATTARI presents in *R. Ital. Num.* XIX, 1906, pp. 75-396, a new theory of the system of Roman coinage introduced among the reforms of Diocletian, and continued, with modifications, into the time of Constantine. The history of each move is set forth, and the whole made clear by classified tables.

Birthday Coins.—In *B. Soc. Ant. Fr.* 1906, pp. 184-185, J. MAURICE discusses the formula PLURA NATAL(ia) FEL(icia), which occurs on some small bronzes of Maximianus and Constantine. He argues that this refers to the *diei natales*, and that the coins were struck for the celebrations of February 27 or July 21, 307, or February 27, 308 A.D.

GENERAL AND MISCELLANEOUS

The Ara Pacis Augustae.—In *Jh. Oest. Arch. I.* IX, 1906, pp. 298-315 (3 figs.), E. PETERSEN discusses the Ara Pacis in the light of the recent excavations on its site. The enclosure had openings on both the east and west, though only on the latter side are there remains of steps. The procession advancing toward the west occupied the two long sides. The smaller slabs were placed on either side of the openings. At one end were the relief of Tellus and the relief representing a libation, in which the two figures personify the Senate and People. At the other end were the two sacrificial reliefs, which represent rites performed at the Lupercal and before the Ara Pacis. It seems better to place the latter pair on either side of the entrance, but there are some reasons for believing that this position was occupied by

the former pair. The large altars recently discovered in Asia Minor are helpful in the restoration of the Ara Pacis. The two openings seem suggested by the shrine of Janus, with which this monument is contrasted by Ovid (*Fasti*, I, 121 ff.).

The Pine-Cone as Fountain.—In *Rh. Mus.* LXI, 1906, p. 311, K. TITTEL corrects a misunderstanding of his discussion of the use of the pine-cone as the monumental mouth of a fountain. The Vatican cone was probably placed on a low base, not on a column. It cannot, however, be regarded as the first example of such a use of this ornament.

The Solea.—In *B. Soc. Ant. Fr.* 1906, pp. 266-267, Commandant LEFEBVRE DES NOËTTES reports on some experiments with the *solea*. He claims that it was a shoe, but that the animal provided with it could only move at a walk. It was therefore only of use to veterinarians, as it enabled horses to be treated while on the march.

The Suburbs of Pompeii.—*Le Musée*, III, 1906, pp. 159-212 (8 pls.; 40 figs.), contains a description of recent discoveries in the neighborhood of Pompeii. The paintings of the villas at Boscoreale are described by GEORGES TOUDOUZE, the furniture by J. DE FOVILLE, and the silverware by A. SAMBON. Two unsigned chapters give a brief account of the discoveries of G. Matrone at Boscotrecase near the ancient mouth of the Sarno, and especially of the dispersion of part of the jewellery there found.

FRANCE

A Bronze Plaque from a Girdle.—In a tumulus at Bélignat (Ain) were found, in 1895, some human bones, a plaque with ornament in *repoussé*, a large ring or collar, and thirty-two bracelets, of which seven only were preserved. All are of bronze. The plaque, which doubtless formed part of a girdle, is rectangular, 0.468 m. long by 0.157 m. wide. The thickness is hardly 0.001 m. The decoration consists of bands of straight lines, and in the bands are geometrical patterns. A number of knobs is added. The decoration resembles closely that of the plaque from Corveissiat (E. CHANTRE, *Album du premier âge de fer*, pls. XXIV and XXIV bis), and the two plaques are evidently of the same period, the end of the Bronze Age and the beginning of the Iron Age. (E. CHANEL, *R. Arch.* VIII, 1906, pp. 120-125; fig.)

Alesia.—The commencement of systematic explorations at Alesia (Alise-Sainte-Reine, cf. *A.J.A.* X, pp. 116, 355) has led A. HÉRON DE VILLEFOSSE to give, in *M. Soc. Ant. Fr.* LXV, 1904-1905, pp. 207-272 (pl.; 3 figs.), a summary of the results of the irregular excavations on the site since the seventeenth century. After a historical sketch, he comments on *C.I.L.* XIII, 2885, 2876, 2877, and 2878, and publishes some fragments consisting of single letters, a tombstone, and a fragment, mentioning a priest of Rome and Augustus. The cantharus of Alesia (cf. *A.J.A.* VIII, p. 323) and its puzzling inscription are discussed, and the article closes with a chronological catalogue of the monuments from Alesia preserved in the Museum at Dijon.

The Greeks in Southern Gaul.—In *Jh. Oest. Arch.* I. IX, 1906, pp. 165-182 (3 figs.), E. MAASS continues his study of the survival of Greek influence in southern Gaul. La Tarasque and her conqueror St. Martha (perhaps a *Μήνηρ*) are a survival of the personified miasma overcome by a

god or hero. Similar influences are traced in the legend of St. Aegidius whose city, St. Gilles, occupies the site of the Doric Heraclea in the Rhone delta.

The Temper of Gallic Swords.—Polybius declares that the Gallic swords were so poorly tempered that they bent or broke on the Roman armor. In *C. R. Acad. Insc.* 1906, p. 260, is a summary of a paper by S. REINACH, who argues that this statement rests on the discovery in Gallic graves of swords, which had been broken, according to the Gallic custom, before burial. The Gallic swords in modern museums are of good quality. The paper is published in full in *L'Anthropologie*, XVII, 1906, pp. 343-358.

Gallo-Roman Chronicle.—In his 'Chronique Gallo-Romaine' (*R. Ét. Anc.* VIII, 1906, pp. 263-271, 343-349; fig.), C. JULLIAN notes briefly numerous books and articles on Gallo-Roman topics, giving special attention to Alesia. He also discusses unfavorably the study of the Greeks in southern Gaul by Maass (cf. *A.J.A.* X, p. 467).

The "Cabinet de France."—*Le Musée*, III, 1906, pp. 309-358 (8 pls.; 33 figs.), contains an account of the more important works of art in the Cabinet de France in the Bibliothèque Nationale. The sculpture, bronzes (a collection of exceptional value), terra-cottas, and vases (including the valuable collection of the Duc de Luynes) are described by N. DE ROMÉ; the silver by A. SAMBON; the engraved gems by A. MORIANI; the coins and medals by J. DE FOVILLE; and the furniture, arms, ivories, etc., by GEORGES TOUDOUZE.

Epigraphic Notes.—In *B. Soc. Ant. Fr.* 1906, pp. 255-257, A. HÉRON DE VILLEFOSSE discusses the inscription from Frolois (see *A.J.A.* X, p. 356). He reads *D.M. | Munimen[tum] | Ripc[i]cnus | Duna[i]u[s] or Dunau[s]*. Ripcus occurs on an inscription from Autun. In *R. Ép.* 118, 1905-06, pp. 168-169, the same writer proposes a new interpretation for part of an inscription from Orange recording a grant of land, published in *C. R. Acad. Insc.* 1904, pp. 497-502; *R. Ép.* 114, pp. 97-99.

GERMANY

Neolithic Settlements in Southwestern Germany.—In *Z. Ethn.* XXXVIII, 1906, pp. 312-345 (map; 12 figs.), A. SCHLIZ discusses the neolithic settlements in southwestern Germany, basing his arguments largely on the decorations of the pottery. The pottery decorated with string patterns (*Schnurkeramik*) belongs to a race of hunters living on the wooded hills, while that decorated with bands (*Bandkeramik*) belongs to an agricultural people, whose settlements are found on the loess, which furnished the only land which could be cultivated with stone tools. These people were of the same race as the hunters, whom they seem to have found in the land when they arrived from the Danube valley, and to whom they seem to have submitted. Later they withdrew southward, for their villages were abandoned, not destroyed. The dwellers in the Lake villages were of another race and civilization, though all these people seem to have influenced each other. All seem to have been overcome by invaders in the early Bronze Age.

Terra Sigillata Ware in Northern Germany.—In *Z. Ethn.* XXXVIII, 1906, pp. 369-377, H. DRAGENDORFF discusses the discoveries of *terra*

sigillata in northern Germany. The vases usually belong to the second or even third century A.D., and, with the Roman glass and bronzes, bear important testimony as to Gallic trade with the coasts of the North Sea and the Baltic. Their evidence confirms the view that this trade was largely carried on by water from Nymegen.

AUSTRIA-HUNGARY

A New Group of Neolithic Pottery.—In *Z. Ethn.* XXXVIII, 1906, pp. 221-227 (15 figs.), E. VON MAJEWSKI describes a group of neolithic pottery with string patterns arranged in waving lines (*Schnurwellenornament*) found in southern Poland. The ornament seems unknown elsewhere in pottery of this period, but strongly resembles the decoration found on Slavic pottery of Christian times.

The Survival of Neolithic Ornamentation.—In *Mitt. Anth. Ges.* XXXVI, pp. [98]-[100], K. FUCHS notes a number of examples showing that neolithic systems of spiral decoration, discussed by Wilke (*ibid.* XXXV, pp. 249-269; *A.J.A.* 1906, p. 437), have survived until recent times in Transylvania.

A Defixio Amatoria.—In *Jh. Oest. Arch. I.* IX, 1906, pp. 192-198, A. VON PREMIERSTEIN publishes with a facsimile a lead tablet found at the Roman colony Poetovio (Pettau). The inscription reads *Paulina aversa sit | a viris omnibus | et defixa sit, ne quid | possit mali facere. | Firminam [cl]od[as] ab o | mnibus humanis*. It is apparently of the second century A.D., and is the first example of a *defixio* found in Pannonia. This form of curse originated in the Greek Orient, and examples are rare in those provinces which were but little reached by Greek influence.

A Roman Sarcophagus.—In *Jh. Oest. Arch. I.* IX, 1906, Beiblatt, col. 87 (fig.), W. KUBITSCHKE publishes a Latin inscription from a large sarcophagus found in 1905 at Doclea. It is the epitaph of P. Cornelius Julius, dedicated by his daughters Julia and Irene.

AFRICA

Bronze Maces from Chélif and La Chiffa (Algeria).—In *R. Arch.* VIII, 1906, pp. 284-289 (3 figs.), E. T. HAMY comes to the conclusion that some cylindrical bronze maces from Chélif and La Chiffa, in Algeria, similar to maces found in Germany, were probably the weapons of some band of northern invaders in the fifth century after Christ.

The Ancient Lamp.—The evolution in the form of the ancient clay lamp is traced in *Reliq.* XII, 1906, pp. 263-268 (18 figs.), by SOPHIA BEALE, chiefly on the evidence afforded by the collections in the museums at Carthage and Tunis.

New Punic Inscriptions.—In *Eph. Sem. Ep.* II, 1906, pp. 171-190, M. LIDZBARSKI reviews the publications and discussions of Punic inscriptions that have been discovered within the last three years.

An Inscription in Honor of Sextus Appuleius.—In *C. R. Acad. Insc.* 1906, pp. 470-478 (fig.), R. CAGNAT discusses a fragmentary inscription from Carthage, which seems to contain an *elogium* of Sextus Appuleius. The writing indicates the Augustan age, and it is probable that the person honored by the Carthaginians was the husband of Octavia the elder, sister

of Augustus, and father of the consul of 29 B.C. He is also known from a Greek inscription of Pergamon.

Senatus Consultum Beguense.—The text of the *senatus consultum de nundinis saltus Beguensis* (C.I.L. VIII, 270, 11451), after careful revision before the originals in the museum of the Bardo, is published in *C. R. Acad. Insc.* 1906, pp. 448-456 (fig.) by A. MERLIN. In addition to numerous minor corrections, lines 5-7, containing the date (October 15, 138 A.D.) and the names of four senators, are given for the first time. They are: *Idibus Oct. in Comitio RVM in Curia Iul. scribundo adfuerunt Q. Gargilius Q. f. Quir. Antiquus, Ti. Cl. Ti. f. Pal. Quartinus, C. Oppius C. f. Vel. Secerus, C. Herennius C. f. Pal. Caecilianus, M. Iul. M. f. Quir. Clarus*. In line five the letters RVM are distinct but inexplicable.

A Latin Metrical Inscription.—In *Berl. Phil. W.* 1906, cols. 1118-1119, R. ENGELMANN points out that the inscription *C. R. Acad. Insc.* 1904, p. 697, is an African hexameter, *bide* (for *vide*), *Diote, bide, poss(id)as plurima, bide*, which is appropriate for the landowner contemplating his possessions, who is represented on the monument.

EARLY CHRISTIAN, BYZANTINE, AND MEDIAEVAL ART

GENERAL AND MISCELLANEOUS

The "Virgin" in the Inscription of Abercius.—In *R. Arch.* VIII, 1906, pp. 93-96, W. R. PATON explains the *παρθένος ἀγνή*, of line 14 of the inscription of Abercius, as Faith, who is mentioned in line 12. The use of the word *χωρηός* as an indication of Christianity is noted.

The Meaning of ΧΜΓ.—The discussion of the abbreviation ΧΜΓ (see *A.J.A.* X, p. 471) is continued in *Berl. Phil. W.* 1906, cols. 1082-1088, by J. J. SMIRNOFF, who argues that in the numerical value (643) of the letters is the key to their meaning, and suggests possible interpretations. The Copts seem to have considered the letters as a symbol of the Trinity. The interpretation of the letters as initials is an early endeavor to explain the meaning of a forgotten symbol. Perhaps the origin is to be found in a Hebrew symbol written in Greek letters.

The Church of the Panagia Gorgoeipikoos in Athens.—In *Ath. Mit.* XXXI, 1906, pp. 279-324 (2 pls.; 30 figs.), K. MICHEL and A. STRUCK begin a study of the churches in Athens belonging to the Middle Byzantine period (eighth and ninth centuries) by a detailed discussion of the church of the Panagia Gorgoeipikoos, or the "little Metropolitan." After a full bibliography, they analyze the architecture of the building, which belonged to the cloister of St. Nicholas, and describe fully the Christian sculptures which decorate the exterior. The frescoes of the interior have almost wholly disappeared. The question of the date is difficult, but a long argument leads to the conclusion that it was built about the beginning of the ninth century at the instance of the Empress Irene, and with the picture of the Panagia Gorgoeipikoos took this name, which had previously belonged to the Parthenon. The building replaced an earlier church, which had superseded the temples of Isis and Eileithyia, and was dedicated to Hagios

Eleutherios, who in more than one locality has succeeded to the cult of Eileithyia. The architectural influence of the church may be traced in other Athenian churches of this time, and seems to have been felt in the church at Skripu (874 A.D.). For the ancient sculptures in this church, see *supra*, p. 214.

The Dome of SS. Sergius and Bacchus at Constantinople.—The discussion of the dome of this church by ALLAN MARQUAND presented at the General Meeting of the Archaeological Institute at Ithaca (see *A.J.A.* 1906, p. 77) appears in *Rec. Past*, V, 1906, pp. 355–362 (5 figs.).

Byzantine Sculptures in Constantinople.—In *N. Bull. Arch. Crist.* 1906, pp. 107–121, A MUÑOZ cites two sarcophagi from Asia Minor, showing the same characteristics as a group in Europe for which he had already claimed Asiatic origin. The series now contains twenty-one sarcophagi or fragments. He also describes some Byzantine sculptures in the Museum and elsewhere in Constantinople, including two reliefs of the “Youths in the Fiery Furnace,” a “Raising of Lazarus,” a relief representing two warriors, an arch from a ciborium now used to decorate a wall, a Madonna with Saints, and a Hellenistic relief, Christianized by a cross carved on the drapery of one of the figures.

A Seal of the Emperor Leontius.—A circular seal bearing the inscription: *Deus aiuta. Leontii* and on the reverse: *Aug. Romion* is published by MORDTMANN in *Byz. Z.* 1906, p. 614. The avoidance of a type is natural for an iconoclastic emperor. Noteworthy are the already Italian *aiuta* and the genitive plural *Romion*.

“Resurrection” in Early Christian Art.—In *Röm. Quart.* 1906, pp. 28–48, A. DE WAAL discusses six “Resurrection” scenes occurring in paintings or on sarcophagi: the “Vision of Ezechiel,” the Raising of Lazarus, the Raising of the Youth of Nain, the Raising of the Daughter of Jairus, the Risen Christ, and the Raising of Tabitha. The “Vision of Ezechiel” is merely a representation of the resurrection at the Last Day. An interesting group of monuments depicts the Raising of Lazarus in an unusual manner, the grave being horizontal and not vertical. A reproduction is given of the only Pre-Constantinian representation of this scene, on a sarcophagus in the Lateran.

Christian Sarcophagi and Inscriptions.—In *Röm. Quart.* 1906, pp. 1–26, A. WILPERT discusses, first, the interpretation of reliefs on sarcophagi. He maintains that the relation between the reliefs and the deceased must always be considered. He thus interprets a Perugia sarcophagus as a sculptured rendering of the catacomb type of Judgment, with Christ as Judge, the deceased as defendant, and five saints as advocates. The two *orantes* on a sarcophagus of St. Cannat in France, personify the soul of the deceased, doubled for the sake of symmetry. The lay figure added to Biblical scenes in many reliefs is also a representation of the deceased. The second part of the article discusses the development and characteristics of formulae in the inscriptions of the first and second levels of the catacomb of S. Priscilla, with corrections of previous publications.

The “Crown of Thorns” in Art.—Commenting upon a statement of E. Mâle in a recent article in the *Revue de deux Mondes* to the effect that the crown of thorns does not appear in art before the beginning of the fourteenth century, F. DE MÉLY shows that its first appearance is in the

twelfth century. He adds some observations on the skull depicted at the foot of the Cross, symbolical of Calvary and on the meaning of the latter word (*B. Soc. Ant. Fr.* 1906, pp. 215-221).

A Font at Gumlöse, Sweden.—A fine sculptured font in Gumlöse church, Skane, south Sweden, is briefly described in *Reliq.* XII, 1906, pp. 276-278 (2 figs.). The carving in its high finish suggests the hand of a worker in ivory. On the base are four lions, each holding a dragon between his teeth. On the bowl, under a series of arches, are represented The Adoration of the Magi, The Annunciation, and The Baptism of Christ. The scenes are accompanied by inscriptions.

ITALY

Iconography in Sta. Maria Antiqua.—W. VON GRÜNEISEN in *Arch. Stor. Patr.* 1906, pp. 85-95, after a careful examination of the fresco of St. Anne with the infant Virgin in her arms, in the central chapel of Sta. Maria Antiqua, reports that it belongs to the rare type in which the Virgin holds the cross in her hands. There is no doubt that a nimbus encircles her head. He also argues, in opposition to Wilpert's theory of the origin of the quadrate nimbus (see *A.J.A.* X, p. 206), that the heads of Theodotus and Pope Zacharias were not painted on canvas, but on small plaster surfaces which were fastened by means of nails over heads already existing, but without change in the figures below.

Byzantine Coinage at Syracuse.—With the advance of the Lombards in the sixth century, communication between Ravenna and southern Italy became difficult, and under Maurice Tiberius a Byzantine mint was established in Syracuse, which continued in operation until 726 A.D. The chief issues are briefly described and illustrated in *Le Musée*, III, 1906, pp. 267-273 (24 figs.) by A. SAMBON.

A Romanesque Pulpit at Arcetri.—The Romanesque pulpit in San Leonardo at Arcetri near Florence stood originally in the church of San Piero Scheraggio in Florence. The reliefs, which represent the Tree of Jesse, the Nativity, the Adoration of the Magi, the Deposition, the Presentation at the Temple, and the Baptism, are not by the same sculptor, but show four separate hands. Two reliefs have been lost. They are in the realistic narrative style of the North contrasting with the southern symbolism as seen, for example, in the pulpit at Ravello. (O. H. GIGLIOLI, *L'Arte*, 1906, pp. 278-291.)

The Miniatures of the Codex Gertrudianus.—D. ROCHE contributes to *B. Soc. Ant. Fr.* 1906, pp. 246-251, a résumé of KONDAKOFF's recent study of the miniatures of the Codex Gertrudianus in the archives of the cathedral at Cividale. The codex is a psalter written for Archbishop Egbert of Trier (975-993), but afterward the property of Gertrude, wife of Grand Duke Iziaslav Iaroslavitch of Poland and mother of his third son, Iaropolk Iziaslévitch. The miniatures were added at this time. The first miniature shows Iaropolk and his wife Irene adoring St. Peter, while the princess Gertrude, kneeling, seizes one of the apostle's feet in such a way that Kondakoff thinks that the ceremony of kissing the toe of the statue of St. Peter in Rome must have been usual at this time. In the "Nativity of Christ," two lions are added at the bottom of the picture, of so plastic a character as to

suggest that the artist was a sculptor. The "Crucifixion" is not rigorously Byzantine. The "Virgin Enthroned" corresponds to the eleventh-century mosaics. As a whole, the miniatures offer an example of a translation of Byzantine types by a non-Greek artist, whose nationality Kondakoff does not venture to determine.

Lombard Fragments at Ferentillo. — In *Röm. Quart.* 1906, pp. 49-81, E. HERZIG publishes architectural and other Lombard fragments in the Abbey of S. Pietro at Ferentillo, which dates from 575. The most interesting is a slab, with incised ornaments and two *orantes*, inscribed *Hildericus Dagileopa + in honore Sci Petri et amore Sci Leo(nis) et Sci Grigorii (p)ro remedio a(nimae) m(eae) + Ursus Magester fecit*. It was probably sketched out and never finished. The Hilderic who was the donor became Duke of Spoleto in 739. The article contains a reconstruction of the chancel-screen and illustrations of several sculptures. Further investigations are urged in order to ascertain the extent of the earliest church and the contents of the five sarcophagi still in the abbey.

SPAIN

Three Castles in Spain. — The castle at Loarre is not a homogeneous building of the last quarter of the eleventh century, as Spanish writers have claimed, but was worked upon from time to time in the twelfth. The castle of Medina del Campo is interesting in the adaptation, by the sixteenth-century architect who remodelled it, of the old fortifications to the demands of artillery. The castle of Coca is modelled upon that of Medina del Campo, but shows much originality in its decorative battlements. (E. LEFÈVRE-PONTALIS, *C. R. Acad. Ins.* 1906, pp. 199-200.)

The Cloister of Santo Domingo. — The cloister of the abbey at Silos in Castile was commenced in the middle of the eleventh century by the abbot, St. Dominic the elder, whose epitaph is preserved on the capital of one of the columns. This capital and others show fantastic motives which have no counterpart in Europe and are the work no doubt of Mussulman slaves. The reliefs on the pillars at the corners of the colonnade are of the twelfth century and show analogies to the school of Toulouse. Others belong to the thirteenth century, like the Tree of Jesse and the Annunciation in the southwest corner. To the same century belongs the upper cloister, whose capitals show a curious persistence of archaic traditions. Toward the end of the fourteenth century, the lower cloister was decorated with a wooden coffered ceiling with painted groups in each compartment, among which is the earliest representation of a bull-fight in Spain. The ceiling is perhaps the work of a Mussulman carver working with a Christian painter. (E. BERTAUX, *Gaz. B.-A.* XXXVI, 1906, pp. 27-44.)

FRANCE

The Motive of a Thirteenth-century Fresco. — The representation of the Virgin kissing the hand of the infant in a thirteenth-century lunette in the church of Notre Dame at Montmorillon has been regarded as a genre conception. P. PERDRIZET in *R. Art Chrét.* 1906, pp. 289-294, derives the motive from Byzantine sources, comparing an ikon published by Kondakoff in his *Monuments de l'art chrétien à l'Athos*, in which the same gesture is

reproduced. The writer regards it as symbolic, referring to the wounds of the Cross.

The Door of the Abbey at Vézelay.— In *R. Art Chrét.* 1906, pp. 253-257, L. E. LEFÈVRE, while accepting G. Sanoner's interpretation of the sculptures on the lintel of the door of the abbey at Vézelay (see *A.J.A.* IX, p. 488), suggests an interpretation for the eight compartments bordering the tympanum, in which is depicted Christ sending forth his Disciples to preach the Word (Fig. 4). The group in the lower left-hand compartment represents Christ and St. John; the others are allegorical representations of the seven churches of Asia, following the description of the Apocalypse.

The Church of Issoire.— The church of St. Austremoine and St. Paul at Issoire in Auvergne, dating probably from the eleventh century, and an exceedingly fine example of the Romanesque architecture of Auvergne, which contains Byzantine elements, is described in some detail by E. D'HAUTERIVE in *Le Musée*, III, 1906, pp. 383-388 (2 pls.). In the outer



FIGURE 4. — THE TYMPANUM AT VÉZELAY.

wall of the north transept are two fine early reliefs, and four of the capitals in the choir are decorated with subjects from the New Testament. The building was originally the chapel of a Benedictine abbey, but since the Revolution has been the parish church.

Architectural Refinements at Amiens.— In *J. B. Archit.* 1906, pp. 397-417 (7 figs.), J. Bilson discusses the views of W. H. Goodyear as to the irregularities in mediaeval buildings. He denies that these are intentional refinements, and illustrates his argument by a detailed examination of the cathedral at Amiens. He concludes that the deviations from the normal at Amiens are merely the accidental results of movements which have taken place in the structure, as is proved by the recorded history and present condition of the building. In fact, the only surprising thing is that they are not much greater.

GREAT BRITAIN

Pre-Norman Crosses in Staffordshire.—In *Reliq.* XII, 1906, pp. 229-246 (11 figs.), G. LE BLANC SMITH continues his discussion of pre-Norman crosses in Staffordshire (see *A.J.A.* IX, p. 229), describing first a fragment at Ilam and two at Checkley, which belong to the Dovedale Sub-group. At Leek are the remains of three crosses, one cylindrical, with the upper part hewn flat on four sides, and two rectangular. The decorations are chiefly knots and interlacings, but No. 3 has on one side a cross-bearing figure, with discs and worms in the field, and above the lower part of another figure. As there is no nimbus, the figure may be merely a pilgrim.

A Fragment of Pre-Norman Sculpture.—In *Reliq.* XII, 1906, pp. 270-273 (2 figs.), J. ROMILLY ALLEN shows that a fragment of pre-Norman sculpture in the museum at York originally formed part of an altar-tomb at St. Andrew's, whence it seems to have been brought by Dibdin about 1838.

AFRICA

Christian Inscriptions of Africa.—In *R. Arch.* VIII, 1906, pp. 126-142, P. MONCEAUX publishes, with notes, twenty-one further metrical Christian inscriptions, all of which have been published in the *C.I.L.* or elsewhere (see *A.J.A.* 1906, p. 477). *Ibid.* pp. 297-310, thirteen inscriptions (Nos. 215-227) are published and discussed.

Christian Carthage.—In *Reliq.* XII, 1906, pp. 162-170 (8 figs.) SOPHIA BEALE gives a brief description of the remains of the great Christian basilica at Carthage, and of a number of the Christian relics in the museum. In conclusion some terra-cotta statuettes, the bronze cover of a mirror case, and an engraved razor recently found in Punic graves are described.

RENAISSANCE ART

GENERAL AND MISCELLANEOUS

Laocoön in the Middle Ages and the Renaissance.—The most ancient representations of the fate of Laocoön are found in Cod. Riccardianus No. 881, of the fourteenth century, in Vat. Lat. No. 2761, of the fifteenth century, and in the Riccardianus Virgil No. 492, whose miniatures show the hand of Gozzoli. One of Filippino Lippi's drawings in the Uffizi (No. 109) shows the influence of Servius' commentary on the Virgilian passage. The discovery of the marble group (1506) gave a new form to the representations in painting, but did not stereotype them, and they finally became entirely different, as in the fresco of Gaudenzio Ferrari. Marco Dente's print is drawn both from the Vatican Virgil and the group, but Fontana's prints, the frescoes of N. Abati, and of Giulio Romano, and the painting by El Greco in the gallery of San Telmo at Seville are all independent of the classic sources. (R. FÖRSTER, *Jb. Preuss. Kunsts.* XXVII, pp. 149-178.)

Attributions to Pier Francesco Fiorentino.—The following pictures are added to Berenson's list in a note signed X. in *Rass. d'Arte*, 1906, p. 136: a Madonna with the Child and infant St. John, recently assigned to Neri

di Bicci by A. Colosanti; a Madonna with the Child, St. John, and an Angel, in the Collegiata of Sinalunga, also hitherto given to Neri di Bicci, a Madonna and Child with the infant St. John in the museum at Dijon; a Madonna in the Houghton collection at Florence; a large altar-piece in the Cathedral at Empoli; a Madonna and Child with the infant St. John in the Fogg Museum at Cambridge; and a Virgin adoring the Child with Angels in the collection of Mr. Herbert Horne.

Hispano-Moresque Ware.—The processes used in making the Hispano-Moresque ware, and the characteristic shapes and decorations, are briefly described with illustrations from the collections of the Boston Museum, in *B. Mus. F. A.* 1906, pp. 37–38 (fig.).

Rembrandt.—Rembrandt's relation to the art of his time has been studied by T. NEAL, who in his little book discusses the works and personality of the artist, the Rembrandt exhibition at Amsterdam in 1898, an unrecognized painting by Rembrandt, and the painting of the seventeenth century. He regards Rembrandt as the greatest exponent of tendencies influencing many contemporary artists. The new painting is in a private collection at Florence, and represents an old woman holding a book against her breast. The face appears in at least six other works of Rembrandt. This picture is a thoroughly characteristic work. (T. NEAL, *Rembrandt e l'Arte del suo Tempo*. Florence, 1906, B. Seeber. 119 pp.; plate; 8vo.)

Claus Sluter, Jan van Eyck, and Rembrandt.—F. SCHMIDT-DEGENER in *Gaz. B.-A.* XXXVI, 1906, pp. 89–108, brings evidence to show that the ten statuettes in bronze in the Museum of Amsterdam are not the original work of Jacques de Gêrines, but cast by him after models furnished by a pupil of Claus Sluter and by Jan van Eyck. He rejects the names of historical persons now applied to the figures and believes seven of them (those inspired by van Eyck) to be representations of the Virtues, while two others, with characteristics of Sluter, are interpreted as Philip the Good invested as Count of Holland by the Emperor. The tenth statuette is rejected as not belonging to either artist. The figure of the Duke of Burgundy reappears in many of Rembrandt's pictures, and that of the Emperor in at least two. All seven of the Virtues were also borrowed by Rembrandt. The writer also identifies the "Head of an Old Man, by van Eyck" which appears in the inventory of Rembrandt's possessions with the "Man with the Carnations," and finds that the painter copied the portrait in several works between 1641 and 1642, as well as in his own portrait in Vienna, which is dated in 1658.

Rembrandt as an Etcher.—In *Burl. Mag.* IX, 1906, pp. 245–253, 313–323, 383–390, C. J. HOLMES continues his studies of Rembrandt as an etcher (see *A.J.A.* X, 479). After settling in Amsterdam in 1631, the artist made many studies from life, but was only partially successful in freeing himself from his model. Of this period is the first "Raising of Lazarus," which is theatrical and lacks the subtle "ghostliness" of which he was master later, and which first appears in the "Descent from the Cross" of 1633. A desire to obtain simplicity led him to imitate Rubens and the Venetians. All his earlier etchings show countless experiments. The over-completeness of the "Triumph of Mordecai" is remedied in the second "Raising of Lazarus," where the unessential is resolutely suppressed. Growing technical capacity, shown in the series of portraits (1646–1648), enabled him to deal with his

favorite mystery with greater success, a fine example being the "Christ appearing to His Disciples," which is the earliest example of "impressionism," being a wonderful realization of the invisible. Rembrandt's tendency in his last period (1650-1661) toward the simplest forms of expression is shown by the changes made in the plates for "Christ presented to the People" and the "Three Crosses." The earlier proofs are filled with figures, while the later show large unfilled spaces, and simple contrasts of darkness and light. His failing sight is shown by certain loose touches in "Christ and the Samaritan Woman," but before the end came he was able to produce the later series of portraits, remarkable for their psychological insight, and fine studies of the nude, like the "Negress," the "Woman at the Bath," and the "Phoenix." In his early period conscientiousness fettered imagination, and even when complete mastery over his medium arrived, his early training asserted itself; the invisible, which he craved to depict, is made substantial.

Rembrandt at the Latin School.—For seven years before commencing his career as a painter, Rembrandt frequented the Latin School at Leyden, and these early studies are often reflected in his works. Many drawings and paintings show acquaintance with Ovid, and several are based on episodes of Roman history. Purely Greek themes are less frequent, but an example is the "Achilles and Briseis." (W. R. VALENTINER, *Jb. Preuss. Kunsts.* XXVII, pp. 118-128.)

ITALY

Florentine Drawings of the Trecento.—In *Jb. Preuss Kunsts.* XXVII, pp. 208-223, OSVALD SIRÉN attributes to Giovanni da Milano a drawing of the Crucifixion in the Kupferstichkabinett at Berlin; to Agnolo Gaddi a folio with drawings of heads in the Museo del Costello at Milan; to Spinello Aretino a folio in the Louvre and to Niccolò di Pietro Gerini another folio in the same collection. A drawing in the Albertina, "A Saint, the Madonna and Child and a donor," is assigned to Pietro di Domenico da Montepulciano, a painter of the beginning of the fifteenth century, who signed a picture now in private possession at Naples, and who is identified with the artist whom the author previously designated *Il maestro del bambino vispo* (see *A.J.A.* 1905, p. 491).

Allegretto Nucci da Fabriano and Francescuccio di Cecco.—ANSELMO ANSELMi publishes in *L'Arte*, 1906, pp. 381-383, from the archives of Fabriano in the Marches, documents which show that Allegretto Nucci da Fabriano died between September 26, 1373, and September 28, 1374, and was buried in or near the church of San Nicolò in Fabriano, although the chroniclers say that he died in 1385, while his place of burial is variously given. An article on the painting of Nucci and Francescuccio di Cecco is contributed to *L'Arte*, 1906, pp. 241-254, by A. COLASANTI.

Ambrogio de Predis and Leonardo.—In *Jb. Kunst. Samm.* XXVI, pp. 1-48, W. VON SEIDLITZ discusses very carefully certain disputed paintings of the Lombard school,—the two portraits in the Ambrosiana, the "Pala Sforzesca" in the Brera, and the Litta Madonna,—and assigns them all to Ambrogio de Predis. Documents show that he was at Innsbruck in 1493, at Milan in 1494, that he was a designer of tapestries in 1498, and that at some time between 1484 and 1494 he collaborated with Leonardo in

painting for the monks of San Francesco in Milan the "Madonna delle Rocce" and the two Angels in the National Gallery in London. These last and the male portrait in the Ambrosiana are assigned to the period between 1491 and 1494; the Sforza altar-piece to 1495; the female portrait to about 1502, the time of the portrait of the Emperor Maximilian at Vienna. Drawings attributed wrongly to Leonardo are fully discussed. The Louvre "Madonna delle Rocce" is the original, while the London picture is a copy by Ambrogio. To the same painter are assigned the "Chastity" in the Galleria Czartorizky and the "Resurrection" at Berlin. (See also *A.J.A.* VIII, pp. 332-333, 504-505; IX, p. 493.)

Antonio di Chellino. — In *L'Arte*, 1906, pp. 442-445, C. DE FABRICZY reconstitutes the life and works of Antonio di Chellino, a follower of Donatello. An uncolored terra-cotta relief of the Madonna and Child, recently acquired by the Museo Nazionale in Florence, is of Paduan origin, and shows the influence of Donatello. To the same artist belong four other terra-cotta reliefs, — a Madonna and Child belonging to Conte Camerini at Piazzola near Padua, the Madonna in the tabernacle on the Via Pietrapiana at Florence, the "Madonna del Perdono" in the transept of the cathedral of Siena, and a Madonna in the Palazzo Saracini in Siena. Among Donatello's assistants at Padua, Antonio di Chellino best answers the requirements of the maker of these works. Traces of his hand may be found in Donatello's altar in the Santo at Padua.

The Interpretation of Botticelli's "Spring." — The motive for the "Spring" is found in the description in the *Mythologicon* of Fulgentius, of the wedding of the Poet and Satyra. The Graces are present as in Fulgentius; Calliope in the centre points out to the bridegroom the bride, who advances, accompanied by Urania scattering flowers, and Philosophia, who is depicted as a divinity of the air. In default of a description in Fulgentius, the bridegroom, represented as Mercury, is drawn from Martianus Capella's "Marriage of Mercury and Philology," which also inspired another "Wedding" of Botticelli's, the frescoes from Villa Tornabuoni in the Louvre. In another nuptial painting, the "Birth of Venus," the painter drew from the *Pervigilium Veneris*. That the Codex Salmasianus, which contains the *Pervigilium*, was known in Florence in Botticelli's time, is proved by the use of a poem of Responsianus, which is contained only in this Codex, in Botticelli's "Mars and Venus" in London, and in the similar picture by Piero di Cosimo. (F. WICKHOFF, *Jb. Preuss. Kunsts.* XXVII, pp. 198-207.)

New Facts regarding Vittorio and Giacomo Crivelli. — C. GRIGIONI in *Rass. bibl. dell'Arte ital.* 1906, pp. 109-119, contributes some new facts about Vittorio Crivelli. He finds references to six works executed or begun by Vittorio, of which one only remains, a triptych of 1481 in the church of Sta. Maria Novella at Montelparo. A document of 1502 appears to show that Giacomo Crivelli did not follow his father's profession, since in it he contracts for the completion of a polyptych of his father by a Venetian painter, living in Fermo, Antonio de Soleris. The writer identifies this master with Antonio Solario, called *lo Zingaro*.

Lorenzo Leombruno. — A life of Lorenzo Leombruno of Mantua is given in *Rass. d'Arte*, 1906, pp. 65-70, 91-96, by CARLO GAMBA. He was born in 1489, and after 1537 nothing more is heard of him. He was lacking

in originality, but technically clever and especially gifted with the decorative sense. A list of his works is also given.

Macrino d' Alba and the Umbrian School.—Starting with the "Madonna and Saints" in the Capitol at Rome, which is now attributed to Macrino d' Alba, LISETTA CIACCIO contributes to *Rass. d' Arte*, 1906, pp.



FIGURE 5. — SANTA BARBARA. (By Palma Vecchio.)
THE MAGDALEN. (By Bergamasco.)

145-153, a minute examination of the artist's characteristics, from which she concludes that his art is really dependent on the Umbrians, and particularly on Pinturicchio and Luca Signorelli. He probably visited Rome between 1481 and 1483, when the Umbrian artists were working in the Sistine chapel.

New Light on Palma Vecchio.—The uncertainty surrounding the life and works of Palma Vecchio is somewhat lifted by an article by G. FRIZZONI in *Rass. d'Arte*, 1906, pp. 113-121. An interesting comparison is made between the famous Sta. Barbara in Sta. Maria Formosa and the statue of the Magdalen by Guglielmo Bergamasco, which stands in the central niche of the altar in the Magdalen chapel of SS. Giovanni e Paolo at Venice (Fig. 5). The sculptor very plainly drew from the painter. To the list of Palma's works are added a St. Jerome and an Adoration of the Child Jesus in the Pinacoteca Borromeo at Milan, a Risen Christ in the Crespi collection, a Resurrection of Lazarus in the possession of the author, and a Madonna and Child in the Visconti-Venosta Gallery. The restoration by Carnaghi of the altar-piece at Peghera, is praised. There is a curious resemblance between Palma's Holy Family in the Venice Gallery and Titian's in the Louvre.

Pietro de Saliba.—The life and works of Pietro de Saliba are carefully studied by E. BRUNELLI in *L'Arte*, 1906, pp. 357-371. He was the nephew of Antonello da Messina senior, brother of Antonello junior, for a long time confused with Pino da Messina, but now properly identified with the painter signing himself *Petrus Messaneus*. His conception is vulgar, his drawing incorrect, and his style impersonal, showing servile imitations of the great Antonello and the influence of Cima da Conegliano. To his four signed works Brunelli adds a Madonna and Child of the Museo Civico in Padua, the Madonna of the Rospigliosi Gallery, there ascribed to Gian Bellini, and the St. Sebastian of the Hertz collection in Rome.

Vincenzo Foppa and a Print of Fra Giovanni Maria da Brescia.—W. SUIDA publishes in *Rass. d'Arte*, 1906, pp. 135-136, a print of 1502, by Fra Giovanni Maria da Brescia representing Trajan and the poor widow. He believes the print to be executed from a painting by Vincenzo Foppa, and suggests that the original was perhaps the fresco painted by Foppa about 1490 in the Loggia of the Old Palace at Brescia, the subject of which is unknown.

Giovanni Bartolo of Siena.—S. J. A. CHURCHILL writes in *Burl. Mag.* X, 1906, pp. 120-125, of Giovanni Bartolo of Siena, goldsmith to the papal court of Rome and Avignon (1364-1385). His chief works were the busts of St. Peter and St. Paul in the Lateran, known only through descriptions, and a reliquary bust of St. Agatha preserved in the cathedral at Catania, made in Avignon for the Bishop Marziale, who took the reliquary with him to Catania in 1377.

Giovanni dal Ponte.—In *Burl. Mag.* 1906, pp. 332-337, H. P. HORNE has untangled the error which made Vasari place Giovanni dal Ponte in the middle of the fourteenth instead of the fifteenth century. He also publishes evidence from several Florentine census reports, which throw much light on the life of the painter, and on that of his partner, Smeraldo di Giovauni, and confirm Vasari's characterization of Giovanni as a spendthrift.

An Unknown Work of Sansovino.—In the church of Sta. Margherita at Montici near Florence is a small marble ciborium with ornamental carvings and two adoring angels, which, by comparison with other works of Sansovino, is shown to be an early work of that master by C. VON FABRICZY in *Jb. Preuss. Kunsts.* XXVII, pp. 79-105. The writer adds a number of documents recently discovered, on the basis of which he forms a chronological table of the life and works of the artist.

The Palazzo Mansi at Lucca. — The Palazzo Mansi at Lucca is a fine example of late Renaissance architecture, but is of special interest for its valuable tapestries and paintings from the Low Countries. These are chiefly of the seventeenth century, though a triptych is perhaps by Lucas van Leyden. The gallery also contains a Holy Family attributed to Pierino del Vaga, and a charming Madonna by Francia. (J. DE FOVILLE, *Le Musée*, III, 1906, pp. 439-445; 3 pls.)

A Picture by Vincenzo Pagani. — The "Coronation of the Virgin" in the Brera was recently proved to be by Vincenzo Pagani by Centanni and Ricci. CARLO GRIGIONI in *Arte e Storia*, 1906, pp. 87-88, corrects the previous descriptions, proves that the picture was painted in 1518, and expresses the opinion that Vincenzo's father, Giovanni Pagani, collaborated with him in the picture.

A Painting by Monte di Giovanni. — P. TOESCA recognizes in the anonymous Annunciation of the Galleria Estense at Modena a work of the miniaturist Monte di Giovanni, who with his brother Gherardo illuminated several existing manuscripts of the early sixteenth century. The hand of a miniaturist of northern Italy is also claimed for a small triptych representing the Nativity, flanked by the angel and Virgin of an Annunciation in the Museo Kircheriano at Rome. (*L'Arte*, 1906, pp. 373-377.)

Two Tombs in the Cathedral of Reggio Emilia. — A curious instance of the use by pupils of designs of the master is communicated to *Rass. d'Arte*, 1906, pp. 156-158, by A. BALLETTI. In the Florence galleries is a pen-drawing for a tomb by Prospero Clementi, which was apparently his first conception of the monument which he afterwards made in much simpler form for the Canon Fossa, in the cathedral of Reggio. The original drawing, however, was faithfully copied in its essential points by his pupils, who carved the monument of Orazio Malaguzzi in the same cathedral.

A New Interpretation of Titian's "Amore Sacro e Profano." — A new reading of the riddle of the picture in the Borghese Gallery is presented by L. OZZOLA in *L'Arte*, 1906, pp. 298-302. He believes the principal figures represent Venus persuading Helen to fly with Paris, and relies for his proof mainly upon the reliefs pictured on the sarcophagus. The horse is the Trojan horse, and the group on the right end of the sarcophagus represents Menelaus slaying Deiphobus with the connivance of Helen. The figures on each side of and behind the horse make up a group depicting Venus saving Paris from Menelaus in battle.

ROME. — Pictures in the Museo Cristiano. — OSVALD SIRÉN contributes some critical notes on the paintings preserved in the *Museo Cristiano* of the Vatican library to *L'Arte*, 1906, pp. 321-335. Most interesting are some new identifications, including a Birth of the Virgin, attributed, with reservations, to Andrea Buonaiuti (ca. 1370); the series of Scenes from the Life of St. Stephen, assigned to an unknown artist between Ambrogio Lorenzetti and Bernardo Daddi; three *predelle* with scenes from the life of Sant' Antonio Abate, by Giovanni dal Ponte, and the predella of the altar-piece, recently reconstructed by Herbert P. Horne, which Gentile da Fabriano made for the church of San Niccolò alla Porta San Miniato in Florence. The predella contains scenes from the life of St. Nicholas of Bari. The four saints of the wings are in the Uffizi, the central Madonna is in the collection of the King of England. Notes on the same museum are contributed to *Rass. d'Arte*,

1906, pp. 106-108 and 121-123, by F. MASON PERKINS, who gives a number of new attributions, but agrees with Sirén in assigning the St. Stephen series to a contemporary of Bernado Daddi, to whom he also assigns a Madonna and Saints in the Accademia delle Belle Arti at Siena, and the Deposition in Sala III of the Museo Cristiano.

The Date of Guido da Siena.—R. DAVIDSOHN in *Rep. f. K.* 1906, pp. 262-267, follows the opinion of Milanese and Wickhoff that the date on the Madonna and Child signed by Guido, in the Palazzo Pubblico in Siena is MCCLXXXI and not MCCXXI. There is no other evidence for an early Guido, while at the end of the thirteenth century, an artist Guido is frequently mentioned in the Siennese archives. Davidsohn is inclined to rate Guido higher than this one picture would place him, because the commission for a Madonna with St. Peter and St. Paul, in the Palazzo Pubblico, important for its connection with contemporary politics, was given to him instead of to Duccio.

The Chapel of S. Biagio in SS. Nazaro e Celso.—The history of the chapel of S. Biagio in the church of SS. Nazaro e Celso in Verona is worked out with the aid of new documentary evidence by G. BIADEGO in *N. Arch. Ven.* 1906, pp. 91-134. Among the new facts about the sculpture and paintings in the chapel, the most noteworthy are the additions to the biography of Francesco Morone.

FRANCE

Simone Martini and Cardinal Stefaneschi.—In a study of Simone Martini's work at Avignon in *L'Arte*, 1906, pp. 336-344, G. DE NICOLA publishes from the Vatican library a group of drawings which were doubtless those sent by Suarez to Cardinal Barberini from Avignon between 1633 and 1666. One of them, representing St. George killing the dragon, is probably a copy of Simone's fresco on the façade of Avignon cathedral. The verses which were inscribed above the maiden's head in the fresco are attributed to Petrarch, by Valladier, but appear in the *Life of St. George*, by Cardinal Jacopo Stefaneschi, as his own. It was therefore he who ordered the fresco from Simone Martini at Avignon, and it was a pupil of Simone's who illustrated the cardinal's *Life of St. George*. Stefaneschi is probably the cardinal, mentioned by Tizio the Siennese historian, who took Simone from his work at Camollia to France, in 1335. Good tradition and the evidence of Suarez's drawing show that Petrarch's Laura was the model for the virgin in the Avignon fresco.

The Betrothal of St. Catherine at Lyons.—E. Bertaux recently published a marble relief in the Aynard collection at Lyons, which he interpreted as a "Betrothal of St. Catherine," and assigned to Agostino di Duccio. This position is disputed by E. BRUNELLI in *L'Arte*, 1906, pp. 379-381. There is no parallel to this conception of the betrothal, the technique is too weak for Agostino, and the sphinx with a coat-of-arms hung about its neck, seated beside the saint, is not consonant with the taste of the fifteenth century. The work is by an imitator, and is probably a modern forgery. *Ibid.* pp. 454-455, Brunelli suggests that the relief is imitated from a representation of Christ taking leave of his mother.

Attributions in the Louvre.—In *L'Arte*, 1906, pp. 401-422, G. FRIZZONI criticises some of the attributions given to Italian pictures in the

Louvre. Among others he discusses a Madonna and Child with Saints and Angels labelled "attributed to Cosimo Rosselli or the school of A. Verrocchio," but now generally recognized as a work of Botticini; a Madonna and Child, which is taken from Ghirlandaio and restored to Piero di Cosimo; an unattributed tondo representing the Marriage of Peleus and Thetis, which he gives to Girolamo di Benvenuto; the portrait of a Young Man in the Salon Carré, also unattributed, but assigned to Franciabigio; the "Vierge aux balances" and the "Bacchus," both given to Cesare da Sesto; the ancient copy of Leonardo's "Cenacolo," given to the Lombard, Marco d'Oggiono; a Madonna and Child signed *Johannes Bellinus*, but relegated to his school; the Apollo and Marsyas, catalogued "Raphael," which is restored to Perugino; and two pictures placed among the French *primitifs* which are ascribed to Defendente dei Ferrari.

Signatures on the "Entombment" at Solesmes.—After a reëxamination of the casts of the "Entombment," the sculptural group of the end of the fifteenth century on the church of the abbey of Solesmes, F. DE MÉLY found on the Virgin's veil, what he considers to be the signatures of the artists in the letters VASORDY ET FABERTI. The names suggest an Italian origin, and the writer claims Italian influence in the figures of an angel and of Joseph of Arimathea. (*Gaz. B.-A.* XXXVI, 1906, pp. 315-322.)

GERMANY

Painting on the Upper Rhine.—D. BURCKHARDT in *Jb. Preuss. Kunsts.* XXVII, pp. 179-197, demonstrates on the basis of a painting from the church of St. Dominic at Basel that about 1385 the upper valley of the Rhine was under Italian influences which came by way of France. A drawing in the Museum at Basel proves even closer relations with France, and it is noted that the father of Konrad Witz (1398?-1447) was court painter of the Dukes of Burgundy. Two of his pictures in private possession at Basel show relations with the school of the van Eycks.

A Gerard David in Berlin.—The Kaiser Friedrich Museum in Berlin has recently acquired a Madonna nursing the Child, with a landscape background, by Gerard David. The motive, often repeated in the fifteenth century, is derived from Roger van der Weyden's "St. Luke." David here imitates somewhat Hugo van der Goes, from whom he seems to have copied in his Adoration of the Magi in Munich. Comparison with the Louvre Madonna dates this picture about 1495. (M. I. FRIEDLÄNDER, *Jb. Preuss. Kunsts.* XXVII, pp. 143-148.)

Italian Trecento Painting in Minor German Galleries.—OSVALD SIRÉN in *Rass. d'Arte*, 1906, pp. 81-87, contributes notes on Italian paintings of the fourteenth century in the Museums of Strassburg, Hanover, Brunswick, and Frankfurt. To Taddeo Gaddi he attributes a small altarpiece in the Museum of Strassburg, and to Bernardo Daddi, with some hesitation, a St. Catherine and St. Agatha in the same museum. Giovanni dal Ponte is given a Madonna in the Städel Institute, and a wing of a triptych in the Hanover Museum, while a series of Episodes in the Life of St. Francis in the same collection is assigned to Taddeo di Bartolo. Works by Lorenzo di Niccolò Gerini, Bicci di Lorenzo, and Lorenzo Monaco are identified in the Museum at Brunswick.

GREAT BRITAIN AND IRELAND

The New Raphael in the National Gallery.—A note in *Burl. Mag.* X, 1906, pp. 29-30, gives the history of the "Madonna of the Tower" recently presented to the nation by Miss Mackintosh. A product of Raphael's early Roman period, it was a prolific subject of copies, by Domenico Alfani, one of Raphael's own pupils, by Sassoferrato, by Ceresa, and others. Its authentic history begins with its appearance in the Orleans gallery, from which it was purchased by Mr. Willett for £150, then by the poet Rogers, at whose death in 1856 it was bought by Mr. Mackintosh for 480 guineas.

Early German Art at the Burlington Fine Arts Club.—In *Burl. Mag.* IX, 1906, p. 254, LIONEL CUST describes a panel lent to the recent exhibition of the Burlington Art Club by the King. It represents a Madonna and Child of Byzantine aspect in a frame decorated with eight compositions from the lives of Christ and the Virgin, the latter being superior in execution to the main picture. It is interesting as an example of the rarely found early Bohemian School. AYMER VALLANCE (*ibid.* pp. 254-264) discusses German art before Dürer as illustrated by works in the exhibition. He finds, among other qualities, a fantastic variableness in architectural ornament, and redundancy and rigidity, particularly in draperies. Five paintings by Dürer and his successors are discussed by CHARLES RICKETTS (*ibid.* pp. 264-268), the most interesting being a "Christ taking leave of his Mother," by Altdorfer, which well illustrates his characteristic fantastic landscape.

The Majolica Roundels at South Kensington.—W. R. LETHABY in *Burl. Mag.* IX, 1906, pp. 404-407, reopens the question whether Luca della Robbia was the author of the painted majolica tondos, representing the months of the year, in the Victoria and Albert Museum. He finds that the curvature of the panels shows that they were made for the vaulted ceiling of a small room, such as that which Luca decorated in Cosimo dei Medici's palace, according to Filarete and Vasari. The borders and figures can be paralleled in other works of the sculptor, and the difficulties as to style are met by assigning the roundels to Luca's early period.

The Subject of the Newgass Rembrandt.—In an article on the Rembrandt tercentenary and exhibition at Leyden in *Gaz. B.-A.* XXXVI, 1906, pp. 265-280 (pl.), F. SCHMIDT-DEGENER describes as of special importance the recently discovered painting owned by Mr. Newgass of London. It represents a mounted Roman consul at the head of his troops, accosted by an old man who has just dismounted from his horse. It has been called the "Triumph of Scipio." In *Chron. Arts*, 1906, p. 290, the same writer cites Valerius Maximus (II, 2, 4) to show that the painting represents Fabius Maximus doing homage to his son the consul.

Rubens or Frans Pourbus the Younger?—H. HYMANS in *Chron. Arts*, 1906, pp. 198-199, defends his opinion that the so-called "Marie de Medicis" belonging to Mrs. Alfred Morrison is by Rubens. He points out that the sitter wears French not Flemish costume, and that the similarity to the likeness of Charlotte de Montmorency, princess of Condé, which is preserved in the Musée Condé at Chantilly, proves that the latter was the subject of the London portrait. The princess was carried off to Brussels by her hus-

band in 1609, and it was in that year that Rubens became the court painter at the Flemish capital. The internal evidence confirms this attribution.

A New Venetian Painter.—The signature *Alesander Oliverius V* on the "Portrait of a Gentleman" recently acquired by the National Gallery of Ireland was supposed to be the name of the sitter until Ludwig proved the existence of Alessandro Oliviero, pupil of Alvise, living in Venice before 1539. Another picture is now claimed for him on internal evidence—a "Madonna with Angels" in the Dublin Gallery—by Sir WALTER ARMSTRONG in *Burl. Mag.* X, 1906, p. 126.

AMERICAN ARCHAEOLOGY

The Origin of American Civilizations.—A review of the theories as to the origin of American races and their civilizations is published in *Mitt. Anth. Ges.* XXXVI, 1906, pp. [87]–[98], by R. ANDRÉE. He regards it as certain that man in America was autochthonous, and that American civilization is an independent development, unaffected by early Asiatic or European influences.

The Remains of Prehistoric Man in the Dakotas.—In *Am. Anthr.* VIII, 1906, pp. 640–651 (5 pls.), HENRY MONTGOMERY describes the remains of prehistoric man in the Dakotas. He distinguishes Burial Mounds, Ceremonial or Feast Mounds and Beacon Mounds. Burials were made in a crouching posture, but in some places the skeletons are defective and the bones scattered. The illustrations show good pottery of a somewhat primitive type, points for spears in stone and bone, carved animal figures on catlinite, pipes of stone, antler or clay ornaments, etc. The author concludes that, "both in their pottery and in their mode of burial, the prehistoric Mound Builders of the Dakotas differed very widely from the prehistoric people of Utah and the Southwest. That they were akin in culture to the Mound Builders of the Mississippi Valley there can be no doubt; yet they differed from them in some respects."

Mound Builders of the Mississippi Valley.—The Mound Builders of the Mississippi Valley are discussed in *Rec. Past*, V, 1906, pp. 236–239, 365–367 (7 figs.), by R. HERRMANN. He argues that burial in mounds was practised by the Muskwakies of the Foxes as late as the arrival of the first white settlers in the neighborhood of Dubuque. The chiefs seem to have been buried in their tepees, which were usually placed on high ground, and hence chiefs' burial mounds are found on prominent cliffs and other points commanding a wide view. A Pueblo Indian pot with a representation of a village of tepees inclosed by a stockade is also described.

The Department of Archaeology at Phillips Academy, Andover.—*Bulletin III*, 1906, issued by the Department of Archaeology, Phillips Academy, Andover, Massachusetts, contains 'A Narrative of Explorations in New Mexico, Arizona, Indiana, etc., together with a Brief History of the Department,' by WARREN K. MOOREHEAD. The paper narrates the explorations by which the collections at Andover have been formed. Some of these were earlier than the establishment of the Museum in 1901, while others were undertaken later. The investigations at Hopkinsville, Illinois, here receive their first official publication. Of special interest is the discussion of the pictographs on birch-bark from Fairfield, Iowa. The author regards

them as authentic, but leaves the decipherment of the characters to the future.

The Shell Heaps of Florida.—The coasts, lakes, and rivers of Florida are bordered by numerous large heaps of shells, mingled with bones of fish and animals, pottery, flint and bone implements, and occasionally glass, or even metal. Sometimes the mounds conceal remains of buildings, as the small stone fort at New Smyrna. Their age probably varies greatly, though the high antiquity of some deposits is shown by the large trees now growing on the mounds. (C. DE W. BROWER, *Rec. Past*, V, 1906, pp. 331-338; 6 figs.)

An Engraved Bone from Ohio.—In *Transactions of the Department of Archaeology* (University of Pennsylvania), II, 1906, pp. 103-105 (3 pls.), G. B. GORDON republishes from an old engraving four views of a fragment of engraved bone found near Cincinnati in 1801. The principal feature of the design is the highly conventionalized head of an animal, apparently a puma.

The Mandans.—In *Peabody Museum Papers*, III, 1906, pp. 148-187, G. F. WILL and N. J. SPINDEN discuss the archaeology of the Mandan tribe, collecting most of their material from the Burgois site, 14 miles northwest of Bismarck, North Dakota. An excellent plan is followed by a description of the mounds, "cache pits," and house sites. Articles in stone include hammers, celts, discoidal mullers, elliptical blades, knives, arrowheads, spearheads, scrapers, chippers, and decorated stones. The stone counters (?) are interesting. Shell objects are not numerous, either as ornaments or implements, and copper only occurs twice. Bone hoes, grainers, straighteners, scrapers, digging implements, awls, needles, fish-hooks, gorgets, beads, buckles, and bracelets were found. The pottery is an excellent ware, thin, well made, and with a characteristic development of form and ornament. Two skeletons were found, one in a flexed position, the other as a "bundle" burial. The former was buried in a manner apparently foreign to Mandan custom, the latter more or less in consonance with it.

The Ancient Mexican Calendar.—In *Z. Ethn.* XXXVIII, 1906, pp. 485-512 (4 figs.; 2 tables), E. DE JOUGHE presents his view of the present state of the discussion of the complicated calendar of ancient Mexico. He treats of the two periods, of 260 and 365 days respectively, by which time was reckoned, of the eighteen monthly festivals, and of the relation of the Mexican to the solar and the European year.

Xochicalco.—In *Transactions of the Department of Archaeology* (University of Pennsylvania), II, 1906, pp. 51-68 (5 pls.; 14 figs.), ADELA BRETON discusses the sculptures on the building at Xochicalco, Mexico. Her notes correct in details the plates published by Peñafiel, *Monumentos del Arte Mexicano Antiguo*, and describe especially the sculptures on the lowest stage. Stress is laid on the differences in detail in repetitions of the same general theme, and on the need of further study and excavation at this important site.

A Zapotecan Manuscript from Santiago Guevea, Mexico.—In *Z. Ethn.* XXXVIII, 1906, pp. 121-155 (29 figs.), E. SELER describes in detail a sheet containing a hieroglyphic record of 1540 from Santiago Guevea. The upper part contains a representation of the village with nineteen surrounding points, which are said to mark boundaries but seem also

connected with heathen observances. The lower portion shows the warriors of the village bringing tribute to the kings of the land. These kings seem to be the great king, Cocijoeza, and his sons and successors, especially Cocijopij, king of Tehuantepec. Such records were prepared by the Indians after the Spanish conquest, especially under Mendoza, 1535-1549, to fix the boundaries of the communities, and are still jealously guarded in many Indian villages.

The Mayas and the Lacandones. — In his Report as Fellow in American Archaeology of the Archaeological Institute of America for 1902-05, Dr. A. M. TOZZER has given a comparative study of the Mayas of Yucatan, who have been subject to Spanish influences since the Conquest, and the Lacandones of Chiapas, Mexico, who are practically unchanged and untrammelled by Spanish contact. He discusses the history, personal and social characteristics, industrial and artistic activity, and religion of both peoples. The religion of the Lacandones occupies a large space, and a full description is given of the complicated ceremonial connected with the incense burners, or *braseros*, for here much seems little changed from the pre-Spanish times. Among the Mayas also there are many survivals of ancient rites. Fifty-one Lacandone chants are given with translations, and a full bibliography. (*Archaeological Institute of America, Report of the Fellow in American Archaeology. A Comparative Study of the Mayas and the Lacandones*, by ALFRED M. TOZZER. New York, 1906, The Macmillan Co., xx, 195 pp.; 29 pls.; 49 figs. 8vo. \$1.25.)

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